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ORGANIZATIONAL STRESS EXPERIENCED BY TEACHERS

by

Ⓒ MARY-JO WILLIAMS

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL
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ABSTRACT

The purpose of this study was to investigate the stress experienced by teachers and to examine the relationships of stress to selected variables. The study examined the extent to which teachers in the Edmonton Catholic School District experienced work-related stress, the organizational sources that were perceived as being contributing factors, and the relationship between specific individual variables classified as personal, professional and structural to overall work-related stress and stress experienced on the organizational factors.

Data were collected using the Organizational Stress Questionnaire developed for the study. Information both on stress and the frequency of its occurrence was collected on the basis of 67 organizational items. The responses to the questionnaire also provided information regarding individual variables and overall work-related stress. Of the 1,014 questionnaires returned, 957 were usable for statistical analyses. The open-ended answers were content analyzed while the scaled-response answers were analyzed using seven statistical techniques. To the extent that teacher stress may be measured using a questionnaire approach, the major findings of the study were as follows:

(1) Almost one-third of the teachers perceived that, overall, their work caused considerable stress or very much stress. More than three-quarters of the teachers reported moderate to very much stress.

(2) Of the personal, professional and structural variables investigated, only three were related to teachers' perceptions of

overall work-related stress. Teachers who had experienced physical illness, personal life stress, or planned to leave teaching also experienced more overall work-related stress.

(3) For most of the teachers in the school district, the top organizational items that were sources of stress were lack of proper placement for students with special needs, lack of sufficient planning time during school day, lack of time during school day to get work done, unmotivated students, and disruptive students.

(4) The organizational items that were sources of stress for the most teachers most often were lack of time during school day to get work done, lack of sufficient planning time during school day, lack of proper placement for students with special needs, unmotivated students and preparing materials.

(5) The organizational items that were the sources of the most stress for individual teachers, to whom they often happened, were lack of proper placment for students with special needs, lack of administrative support, involuntary transfer to another school, lack of clearly-defined school policies, and disruptive students.

(6) The best predictors of teachers' overall work-related stress were lack of sufficient planning time during school day and conflicting needs of students.

(7) Factor analysis of the 67 organizational items revealed five underlying factors or clusters of items related to teacher stress: Relationships with Colleagues, Teaching Tasks, Work Load, Relationships with Students, and Job Security.

(8) While only three personal variables were related to teachers' perceptions of overall work-related stress, all of the

personal, professional and structural variables were related to teachers' perceptions of the sources of stress identified using factor scores for individuals. For example, females, teachers in the 25-39 age group, teachers with 6-10 years of experience, full-time classroom teachers and teachers in smaller schools experienced more stress related to several organizational factors.

(9) Further analysis of teachers who reported work-related physical illness, personal life stress and a propensity to leave the profession also produced differences between groups for a number of other personal, professional and structural variables. For example, teachers of the core subjects experienced more physical illness; males experienced more personal life stress; and males, teachers in the 25-29 age group, teachers who had been in their present school for 1-2 years, and teachers of senior and junior high were least likely to pursue a career in education until their normal retirement age.

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CHAPTER 1

STATEMENT OF THE PROBLEMS AND DEFINITIONS OF TERMS

INTRODUCTION

During the 1970's considerable interest developed in stress and "burn-out" as they relate to quality of work life. A number of researchers who have studied workers in business and industry have concluded that organizational life experiences carry a burden of stress with them and that this burden may be debilitating, both for the individual and for the organization. For example, French and Caplan (1972:30) state:

> The large bureaucratic organization, like other settings, exerts its own set of unique forces on the individual. Through the application of these forces, the organization is able to channel the individual's behavior toward certain goals and to direct his interactions toward certain people and away from others. This conformity to organizational norms is, of course, purchased at a price most often thought of in terms of salary or wages. But there are often other prices which the organization incurs . . . costs which are rarely, if ever, tallied in the quarterly reports of modern organizations: they are costs in the form of job-related pathologies of the people who make the organizations run. These pathologies can manifest themselves in forms ranging anywhere from passive apathy, job dissatisfaction, and depression to violent acts directed against the organization. In some cases, the individual may even suffer a disabling ulcer or heart attack which forces him to withdraw from an active life in the organization before his full value as a human asset (Brummet, Pyle and Flamholtz, 1968) has been realized. Thus both mental and physical health may be affected by the continual pressures of the job over a period of years.

Porter et al. (1975) suggest that researchers need to assess the impact of the organization on the psychological health and well-being of organization members, to develop measures of organizational effectiveness which deal with these variables, and to develop multiple measures of the quality of work experience for individuals. Such measures, Porter et al. (1975:520) maintain, should be designed to evaluate organizational practice, varieties of personal outcomes and individual differences which ". . . moderate the way people respond to various aspects of organizations and to the practices of organizations." The search for the roots of work-related stress for specific occupational groups is of major theoretical and practical importance.

Few studies have explored the stress teachers encounter in performing various aspects of their work. The absence of formal research may be considered surprising in view of the many articles on teacher stress and "burn-out" recently published in the popular press. Adams (1980:165), an expert on stress, suggests:

> An understanding of the sources of stress in one's life is an important prelude to developing a plan for effective stress management. Furthermore, understanding the organizational sources of stress is basic to developing processes for reducing or removing unnecessary stress . . . A complete approach must consider altering stressful organizational norms and management practices.

This view is supported, with regard to teachers in Alberta, by a government fact-finding commission. Kratzmann et al. (1980:34) state:

> We begin by maintaining, as did the former Calgary Board of Education, that "work-induced stress is generally dysfunctional." A logical extension of this assumption leads us to believe that, should teaching today be particularly stressful, then factors causing that stress should be either eliminated or alleviated, or failing that, conditions be provided that will allow accumulated stress to be released in some acceptable way.

If stress is a problem for teachers, then factors causing stress must be identified.

PURPOSES OF THE STUDY

The main purpose of this study was to investigate work-related stress and its sources for teachers. The study sought to assess the overall work-related stress of school-based teachers in the Edmonton Catholic School District and to determine organizational items which contributed to their perceptions of stress. The study also sought to examine differences in work-related stress associated with individual characteristics of the teachers. Further purposes were to examine differences in physical illness, personal life stress and commitment to the profession associated with individual characteristics; to determine teachers' reasons for leaving the profession; and to gather additional information about teachers' perceptions of sources of stress in their work.

STATEMENT OF THE PROBLEMS

Problem 1: Overall Work-Related Stress

Sub-Problem 1.1. To what extent do teachers experience overall work-related stress?

Sub-Problem 1.2. To what extent is overall work-related stress of teachers associated with personal variables: sex, age, physical illness, personal life stress, and commitment to the profession?

Sub-Problem 1.3. To what extent is overall work-related stress of teachers associated with professional variables: years of education for salary purposes, years of teaching experience, and number of years in present school?

Sub-Problem 1.4. To what extent is overall work-related stress of teachers associated with structural variables: present position, major grade level, major teaching assignment, and number of teachers in the school?

Problem 2: Stress Related to Organizational Items

Sub-Problem 2.1. To what extent do teachers experience stress related to selected organizational items?

Sub-Problem 2.2. What is the rank order of the organizational items when they are ranked from most stressful to least stressful for the TOTAL group?

Sub-Problem 2.3. What is the rank order of the organizational items when both frequency of occurrence and stress are combined (organizational stress), and they are ranked from most stressful to least stressful for the TOTAL group?

Sub-Problem 2.4. What is the rank order of the organizational items when only stress which occurs "frequently" or "almost constantly" for individuals is taken into consideration?

Sub-Problem 2.5. Which organizational items are the best predictors of overall work-related stress?

Problem 3: Stress Factors

Sub-Problem 3.1. Do the organizational stress items represent identifiable general organizational factors?

Sub-Problem 3.2. To what extent is teachers' organizational stress on the organizational factors associated with personal variables: sex, age, physical illness, personal life stress, and commitment to the profession?

Sub-Problem 3.3. To what extent is teachers' organizational stress on the organizational factors associated with professional variables: years of education for salary purposes, years of teaching experience, and number of years in present school?

Sub-Problem 3.4. To what extent is teachers' organizational stress on the organizational factors associated with structural variables: present position, major grade level, major teaching assignment, and number of teachers in school?

Problem 4: Further Analysis of the Stress of Respondents

Sub-Problem 4.1. What differences in personal, professional and structural variables exist between respondents who indicated work-related physical illness and those who indicated no work-related physical illness?

Sub-Problem 4.2. What differences in personal, professional and structural variables exist between respondents who indicated personal life stress and those who indicated no personal life stress?

Sub-Problem 4.3. What differences in personal, professional and structural variables exist between respondents who indicated that they planned to stay in the profession, those who were undecided, and those who planned to leave?

Problem 5: Commitment to the Profession

Sub-Problem 5.1. What reasons do respondents give for planning to leave the profession prior to normal retirement age?

Sub-Problem 5.2. What reasons do respondents give for being undecided about pursuing a career in education until normal retirement age?

Sub-Problem 5.3. What qualifications do respondents who plan to pursue a career in education until their normal retirement age place on their commitment?

Problem 6: Sources of Stress Identified by Teachers

What organizational items do teachers personally identify as being sources of work-related stress?

CONCEPTUAL DEFINITIONS AND DIFFICULTIES

Conceptual Definitions

There are almost as many definitions of stress as there are studies of stress. The multiplicity of definitions probably is a function of the approaches adopted for research on stress. Kyriacou and Sutcliffe (1977a:299) report that some studies focus on the characteristics of the environment while other studies focus on individual differences in perception and appraisal of situations and still other studies concentrate on the individual's stress response.

Cox (1975:493) attributes the difference in focus to the tendency of researchers, depending on their disciplines, to view stress from the vantage point of one of three general models: the engineering model, the physiological model, or the transactional model. With the engineering model, external stresses are viewed as giving rise to a stress reaction, or strain, in the individual. Cox (1975:493) states: "Stress is firmly located in the stimulus characteristics of the environment. Stress is what happens to a person, not what happens within him." Differences in resistance to stress are attributed to the enduring characteristics of the individual such as heredity and experience. Those researchers who adopt the engineering model generally define stress in terms similar to those used by Kahn (1973:5): stress is any force directed at an object; strain is the effects of stress; effects are measured in terms of deflection or some other structural change. Researchers who have adopted this model include Kahn et al. (1964), Caplan et al. (1975), French et al. (1965, 1972), Wild and Hanes (1976), Cooper and Marshall (1976), and Gmelch (1977).

Researchers who adopt the physiological model view stress as what happens within the person and concern themselves with what Cox (1975:493) terms the response aspects of the engineering model. "This approach has sought to specify the pattern of physiological and psychological response which may be taken as evidence that the individual is suffering stress." Stress from this viewpoint is generally defined in physiological terms similar to Selye's (1974:14) definition: "Stress is the non-specific response of the body to any demand made upon it." A few of the researchers who have adopted this model include Selye (1957, 1974), Appley and Trunbell (1967), Holmes and Rahe (1967), Levi (1967) and Johns (1974). In general, they reflect a medical view of stress.

The third model is labelled by Cox (1975:494) as the transactional model:

> The transactional approach relates to an important interaction between man and his environment. According to this approach

> stress arises whenever there is an imbalance between the person's perception of the demand placed on him by his situation, and his ability to cope, when failing to cope is important (McGrath, 1970). It is essential to realise that the important balance or imbalance is not between actual demand and actual capability, but between perceived demand and perceived capability. What is important for the individual is his cognitive appraisal of the potentially stressful situation and of his ability to cope . . . . If failing to cope is important, he will then be under stress.

Definitions of stress by researchers who adopt the transactional model adhere closely to the working definition provided by McGrath (1976:1352):

> . . . there is a potential for stress when an environmental situation is perceived as presenting a demand which threatens to exceed the person's capabilities and resources for meeting it, under conditions where he expects substantial differential in the rewards and costs from meeting the demand versus not meeting it.

Researchers who view stress as the perception of such imbalance or discrepancy include Gowler and Legge (1975a), Burgoyne (1975), McGrath (1976), House (1974), Chan (1977) and Fineman (1979).

The conceptualization of stress adopted for this study is that of Kyriacou and Sutcliffe (1978a:2) who view stress as an affective reaction of the individual and define teacher stress as:

> . . . a response of negative affect (such as anger or depression) by a teacher usually accompanied by potentially pathogenic physiological and biochemical changes (such as increased heart rate or release of adrenocorticotrophic hormones into the blood stream) resulting from aspects of the teacher's job and mediated by the perception that the demands made upon the teacher constitute a threat to his self-esteem or well-being and by coping mechanisms activated to reduce the perceived threat.

This definition appears to be an effort to encompass both the transactional and the physiological models. It does not provide a distinction between what may be positive as opposed to negative stress. However, when people speak of being under stress, they are generally referring to negative stress or what Selye would term distress, just as people who say they have a temperature mean that their body temperature is something in excess of 98.6 degrees. With this limitation in mind, the present study will adopt the Kyriacou and Sutcliffe definition as a conceptual definition of stress.

Difficulties

In addition to definitional difficulties that attend stress research, there are further confounding factors that arise from adopting a familiar word and attempting to attach to it more technical meanings. Janda (1972:46) identifies two of these difficulties in a discussion of leadership theory. The first is called the delusion of sufficiency. It pertains to:

> . . . a premature satisfaction with the analytical utility of the concept being proposed. The delusion of sufficiency sometimes results in concepts which are not independently defined but which incorporate the wealth of denotations and connotations associated with the normal use of the word. At other times, the delusion of sufficiency might lead to the hasty adoption of a fairly explicit common meaning without considering the problems involved in utilizing that meaning to support rigorous analysis.

Janda maintains that the delusion of sufficiency tends to produce concepts that lack analytical tightness.

A second difficulty is what Janda (1972:46) identifies as confusion by similarity. It relates to:

> . . . the entanglement of a carefully formulated concept with one or more analytically distinct concepts that share the same label. A clear concept might be confused with one prepared under the delusion of sufficiency, or perhaps the confusion would result when alternative analytically tight concepts were similarly named.

There is support in the literature that the study of stress may be affected by these two difficulties. In fact, several authors express dissatisfaction with use of the term "stress." Hinkle (1974) traces the use of the term from its Latin origins and concludes that in present usage it has very little explanatory value. Others, such as Kahn (1973:5) believe that stress should be a word used as a generic term to denote an area of investigation with more specific concepts such as conflict and ambiguity being sought for research. Still others, such as Chan (1977:89) do not share Hinkle's denunciation that the concept is no longer ". . . adequate, or even helpful, for our understanding of how the interactions between people and pathogenic agents, or between people and society, produce disease."

Another difficulty with the study of self-reported stress is what Locke (1976:1311) identifies as defensiveness. Respondents may ". . . to avoid any threat to their self-image . . . take credit for the satisfying events that occur while blaming others for dissatisfying occurrences." To the extent that studies of stress are similar to studies of job satisfaction, they may be constrained by the concept of defensiveness.

Bouchard (1976:365) identifies yet another difficulty with studies conducted in field settings. This centers on what might be termed setting effects. Subjects may be open to influence or "Self-selection may have populated the setting only with individuals who have demonstrated a capacity to adapt to the influence of the variable under study." Respondents' attitudes may be affected by antecedent and/or concurrent events that impinge on the matter under consideration. Studies of stress should be interpreted with caution in that some or all of these difficulties may be present.

OPERATIONAL DEFINITIONS OF TERMS

Stress

The definition of stress used in the questionnaire which was distributed to respondents was ". . . a pressure or overburdening experienced by a person as a result of a situation in the work setting." This definition approximates what House (1974:19) terms the "layman's" conception of occupational stress and was, therefore, deemed most appropriate as a definition to use in the gathering of the data. It also fits in with Kyriacou and Sutcliffe's conceptual definition.

Burn-out

Burn-out is defined as physical, emotional and attitudinal exhaustion caused by excessive amounts of work-related stress. Edlewich (1980:14) refers to burn-out as ". . . a progressive loss of idealism, energy, and purpose experienced by people in the helping professions as a result of the conditions of their work." Burn-out thus refers more to the psychological results of stress.

Overall Work-Related Stress

Overall work-related stress is defined in this study as the expressed opinion of respondents as to how much stress they find in their work, on the average.

Organizational Item

Organizational item is a term used to refer to those aspects of teachers' work identified by the researcher as potential sources of stress. The items were specifically selected from sources of stress identified by teachers attending workshops conducted by the researcher and from the review of the literature.

Organizational Stress

Organizational stress is that which takes into account both the frequency with which the organizational item occurs and the degree of stress that the respondent reports (frequency x stress). Selye (1974:26-27) has described the phenomenon known as the General Adaptation Syndrome. A moderate stressor occurring over a long period of time can be as damaging as a severe stressor experienced over a shorter period, because the body's adaptation energy is finite.

Stressor

A stressor is defined as anything that is a source of stress.

Organizational Factors

Organizational factors are the clusters of organizational items derived by factor analysis.

Teachers

The term "teachers" refers to those school-based personnel who require an Alberta Teaching Certificate as a condition of employment.

ASSUMPTIONS

The following assumptions were made in relation to the study:

(1) that an individual's stress is measurable by means of a questionnaire,

(2) that the organizational items delineated in the questionnaire accommodated the major sources of stress of teachers,

(3) that teachers were able to comprehend the questions in the sense intended by the researcher,

(4) that responses given to the questions were sincere and as accurate as is possible, and

(5) that the respondents' relative ratings on the questionnaire provided valid indicators of their stress.

DELIMITATIONS

The study was delimited to school-based teachers in one urban school district in Alberta. It was also delimited to the use of information provided in a questionnaire, with no follow-up interviews being conducted. The data reflect teachers' perceptions of their work situation and the stress that they were experiencing. Specific physiological or psychological indicators of stress were not examined. The study also did not examine personality variables such as behavior type or higher order need strength which may influence teachers' perceptions of stress. Finally, the study was delimited to investigating the concept of stress in the sense that Hans Selye (1974) would term "distress."

LIMITATIONS

The instrumentation used in the study provided two limitations. It limited the data-gathering to the use of a questionnaire and teachers' self-reported perceptions of stress. Furthermore, the sixty-seven possible sources of stress included in the questionnaire may not have covered all major areas of concern for teachers.

The study did not examine a random sample of all school-based teachers in Alberta; consequently, the findings may not apply to teachers in general throughout the province.

Some factors may have influenced the results. The data were gathered near the end of the school year when stress accumulation may have been high. A number of the questionnaire items were not neutral in the sense that they suggested a lack of certain desirable features in the work situation. The questionnaire was distributed at a time when attention had been given to stress by the press. Also, the study was approved by both the school board and the teachers' local association. There is a possibility that the teachers were not naive about the study and that those who responded did so in light of self-interest. However, there was no evidence that this might be the case. There is also a possibility that the teachers who responded were those who were experiencing the most stress. However, it is also possible that those who did not respond neglected to because of other more immediate pressures.

SIGNIFICANCE OF THE STUDY

During the past few years, many articles have appeared in the popular press reporting the increasing amounts of stress that teachers are experiencing in their work. Writers of these articles also speculate that increasing numbers of teachers are leaving the profession prematurely for stress-related reasons. Often quoted is a study by Poste (1981) who found that the life expectancy of Canadian teachers falls short of the national average by 3.6 years. Alberta teachers, themselves, appear to feel that stress is a problem, if the number of convention and other in-service sessions devoted to the topic is any indication. (There were seven sessions related to stress at the 1980 North Central Teachers' Convention alone.) Yet, little effort has been devoted to gathering evidence systematically to discover how extensive the problem actually is, what is causing it and how teachers cope.

Several studies have been conducted in the United States and England and one was recently completed in Quebec (MacRae, 1979). However, since stress and burn-out may be directly linked to conditions of work, there is need for an Alberta-based study to get Alberta data. Stress researchers invariably conclude that for an organization or an individual to do anything about coping with stress, they must first understand the stressors. Furthermore, as Pratt (1978:3) states:

> It is reasonable to assume that when people consistently report feelings of stress in their working lives, both their work and well-being may be affected by this. For this reason any study of stress is important, since it may identify causes and suggest remedies.

One justification for the study, therefore, is its potential for practical application.

Policy-makers may use information on the impact of current organizational experiences on teachers' work-related stress to modify policies and procedures. Administrators, in particular, should be interested in the perceptions of teachers about the sources of stress in their work, and how teachers view the quality of their work-life. Those concerned with developing and providing pre-service and in-service education programs may also view the findings as being relevant. Finally, the instrumentation developed for the study might provide a means of assessing the work-related stress of teachers.

ORGANIZATION OF THE THESIS

Chapter 1 presented a brief outline of the research area, a statement of the problems and sub-problems to be addressed, definitions of terms used in the study and a discussion of the assumptions, limitations and delimitations, and significance of the study.

Chapter 2 contains a review of the related literature which was delimited to four major topics: The Nature of Stress, Stress and Behavior in Organizations, Organizational Sources of Stress, and Teachers and Stress. The conceptual framework used for selecting relationships in the study is also presented.

The development of the research instrument, data collection procedures, statistical techniques used to analyze the data, and content analysis procedures are discussed in Chapter 3.

Chapter 4 contains a discussion of the individual variables: personal, professional, and structural characteristics of the respondents.

Chapters 5 through 7 contain research findings related to the six problem statements while the summary and conclusions, implications of the study and recommendations for future research are contained in Chapter 8.

The Appendix contains a copy of the research instrument.

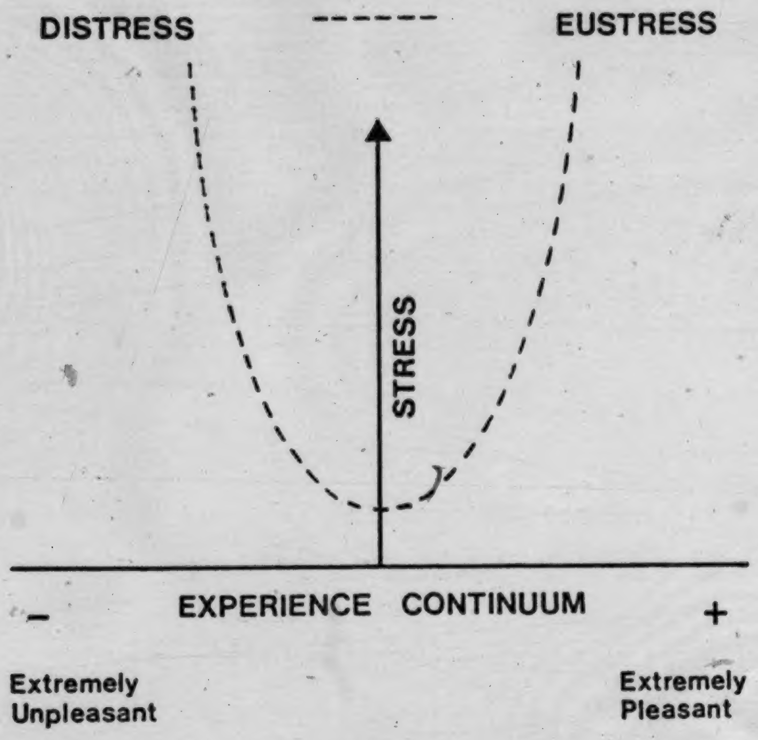
CHAPTER 2

REVIEW OF THE LITERATURE AND CONCEPTUAL FRAMEWORK

This chapter presents the general background to the study through a review of the related literature. The review was delimited to four major topics: (1) the nature of stress, (2) stress and behavior in organizations, (3) organizational sources of stress, and (4) teachers and stress. The chapter also contains a conceptual framework for the study of stress and a diagram of the relationships to be explored in the study.

THE NATURE OF STRESS

Stress is widespread in occurrence, its study involving many disciplines. Hans Selye (1974:14) is responsible for the medical definition of stress: ". . . the nonspecific response of the body to any demand made upon it." Selye (1974:15) maintains that "it is immaterial whether the agent or situation . . . is pleasant or unpleasant; all that counts is the intensity of the demand for readjustment or adaptation." A theoretical model presented by Selye (1974:20), showing the relation between stress and various types of life experiences, is reproduced in Figure 1.


DISTRESS

EUSTRESS
STRESS
EXPERIENCE CONTINUUM
–
+
Extremely Unpleasant
Extremely Pleasant

Figure 1. Relation between stress and various types of life experiences.

Selye has defined unpleasant stress as "distress" and pleasant stress as "eustress." Furthermore, stress is an integral part of life. Death is the only state that would bring the stress level down to zero. Consequently, stress is not something to be avoided entirely. However, when it reaches the point of "distress," which is always unpleasant, it becomes damaging. Usually when people speak of being under stress, they are referring to distress.

Burgoyne (1975:20) describes the physical side of stress as the body's reaction to prepare itself for violent activity, as in fight or flight, with that physical activity rarely following. Hence, the physical system is thrown out of balance with excess acid being secreted in the stomach, adrenalin and fat in the blood, higher heart rates, and so on. It is this chronic preparation for action, without action, that leads to disease and disorder.

The hormonal mediation of stress reactions has been diagrammed by Selye (1974:31) and Levi (1967:32) as illustrated in Figure 2.

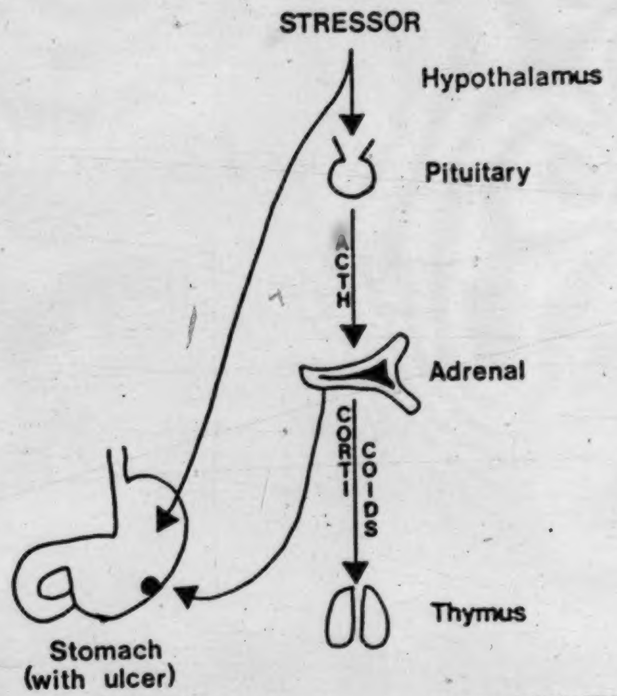

STRESSOR
Hypothalamus
Pituitary
ACTH
Adrenal
CORTICOIDS
Thymus
Stomach
(with ulcer)

Figure 2. Diagram of hormonal mediation of stress reactions.

The stressor or event that causes the stress is very specific. Whether it be getting fired, winning a lottery, a death in the family, getting a promotion, or not getting a promotion, the physiological response or stress it causes in the body is non-specific. No matter what the stressor, it results in an involuntary action of the sympathetic branch of the autonomic nervous system. The hypothalamus stimulates the pituitary gland to secrete the hormone ACTH (adrenocorticotrophic hormone) into the blood stream which in turn causes the adrenal gland to release corticoids (adrenaline, cortisone and other stress hormones). These cause such reactions as thymus shrinkage, atrophy of the lymph nodes, production of sugar, change in muscle tone, change in electrical activity in the brain, and so on.

The result of stress, over time, is again specific, although how it manifests itself is dependent on the particular individual. Because stress effects tend to be cumulative, the results may be serious or tragic by the time stress manifests as an illness, pain or disorder. Hall(1977) reports the following stress facts of note:

-- Seventy percent of current diseases and disorders are stress related.

-- Stress is directly linked to hypertension (high blood pressure).

-- Hypertension predisposes one to atherosclerosis, heart attacks and strokes.

-- These diseases account for close to 50 percent of the deaths in the United States and Canada each year.

-- Fifteen to 33 percent of the adult population has some form of hypertension.

-- Sons are now experiencing heart attacks at an average of 13 years younger than the age at which their fathers experienced theirs.

-- Within the last decade, heart attacks have become commonplace for men in their thirties.

-- The occurrence of stress-related disease symptoms in women is increasing.

-- Stress adversely affects job performance, family relationships, and general health.

- Ulcers, constipation, colitis, insomnia, many skin diseases, bruxism, chronic anxiety, Raynaud's syndrome, sexual dysfunction and headaches are stress-related problems.

- The body acclimates itself to stress, so that it is often not "experienced" until it manifests as an illness, pain or disorder.

- There is growing evidence that certain forms of cancer are stress-related.

Research has shown that different stimuli can produce the same physiological stress result, and that the body's adaptation energy is finite. Selye (1974:26-27) has described the phenomenon known as the General Adaptation Syndrome (G.A.S.) as illustrated in Figure 3.

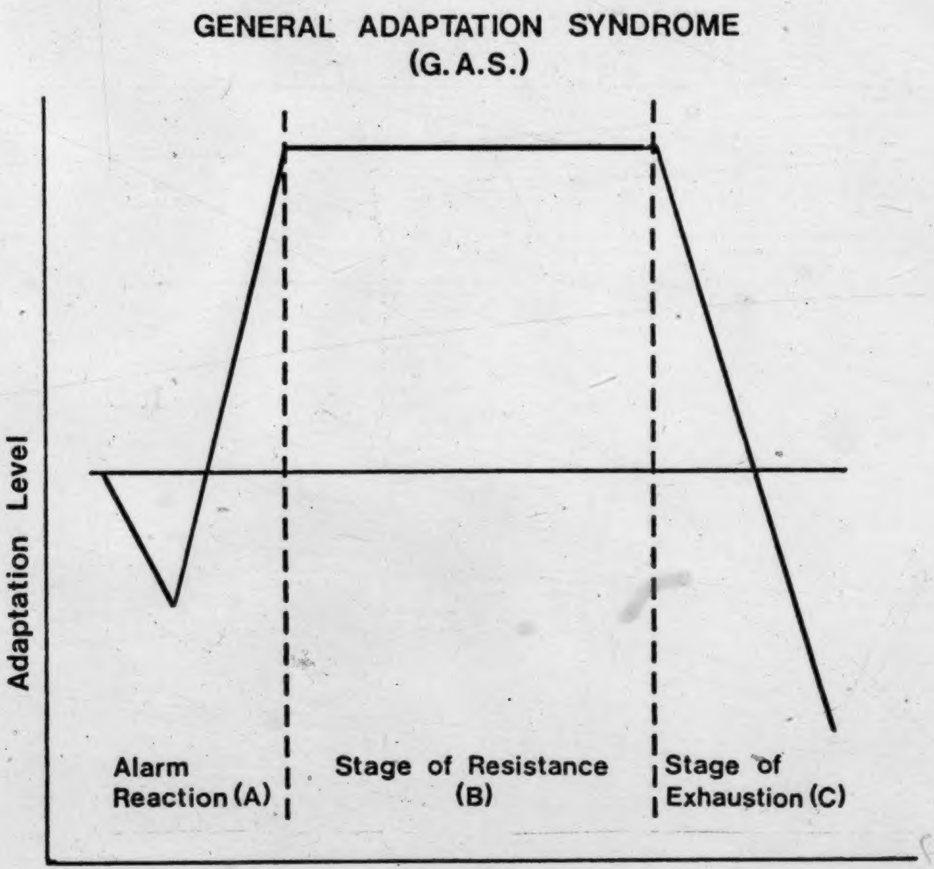


Figure 3. General Adaptation Syndrome.

The first phase (A) represents the alarm reaction in which the body shows the changes that characterize first exposure to the stressor; resistance is diminished, and, if the stressor is sufficiently strong, death may result. The second phase (B) represents the stage of resistance which ensues if continued exposure to the stressor is compatible with adaptation. Following prolonged exposure, however, the body reaches the third phase (C), the stage of exhaustion in which the signs of the alarm reaction reappear but are irreversible and the person dies.

Research has also shown that internal and external conditioning factors cause the same stimulus to act differently in different individuals. It isn't so much what happens to you, but how you take it that counts. Selye (1974:35) states that:

> Any kind of activity sets our stress mechanism in motion, though it will largely depend upon accidental conditioning factors whether the heart, kidney, gastrointestinal tract, or brain will suffer most. In the body, as in a chain, the weakest link breaks down under stress although all parts are equally exposed to it.

The results are particularly insidious because they are not subject to the person's will.

Stressors

Stressors may be both physical and psychological (Appley and Trunbell, 1967; Johns, 1974; Kiev, 1974; Levi, 1967; Pilowsky, 1974; Selye, 1974; Spielberger and Sarason, 1975; Torrance, 1965). Some common physical stressors include bacteria and viruses, heat and cold, accidents, hunger, various man-made means of annihilation and actual existence of dangers. However, as Levi (1967:34) points out, man also reacts to threats and symbols of danger experienced in the past.

> Man wants to be prepared to meet a new situation the moment it appears. This creates a situation in which organ function is adjusted not only to the needs of the organism in prevailing conditions but to anticipated needs as well. Irrespective of whether this preparedness is adequate or not, it may affect the adaptive—protective mechanisms of the living organism.

Mental stressors present themselves in the psychological and social dangers in our lives. These might include declining ability and competence, failure to accept thwarted ambitions and promotions beyond one's ability, financial insecurity, poor social contacts, an unhappy marriage, conflict between home and work, strained working conditions, fear about retirement or redundancy, inability to cope with sudden change, and so on.

Even the experts in the field do not know why the stress of frustration rather than that of excessive muscular work is much more likely to produce disease. In fact, physical exercise can serve to relax us and help us withstand mental frustration.

Some of the physical and psychological stress is unexpected and beyond personal control. However, as Howard (1973:73) points out:

> The remainder . . . is a product of events about which we daily make decisions. During most of our life the controllable experiences predominate but the total stress in our life is the sum of these two kinds of experiences. Because each of us has a limited capacity for stress this is an important concept. If the total stress we experience in living exceeds our capacity we become candidates for the onset of illness and disease.

Both personal life events and organizational life events contribute to the cumulative total.

Personal Life Events as Stressors. Research evidence exists to suggest that certain life events are more stressful than others. Growing out of the work of Wolff, who emphasized that the adaptive demands made on the individual by the environment were intimately bound up with the individual's health, Holmes and Rahe (1967) posited that the general rate of change in a person's life might be one of the most important environmental factors affecting his health. They made the following assumptions: that ordinary life events carry with them a burden of stress; that coping with stressful circumstances lowers resistance to disease; that accumulation of stress events over a period of time increases the probability of illness and disease; and that the more stress that is accumulated, the more serious the illness is likely to be. Based on these assumptions, Holmes and Rahe developed a research tool called the "Life-Change Units Scale" which made it possible to quantify the rate of change in an individual's life for a given span of time.

On the assumption that different life changes would affect people with different force, Holmes and Rahe (1967) tested their instrument with thousands of people, both in the United States and Japan. Their results demonstrated that, even across cultures, there was wide-spread agreement on which adaptations are relatively major and which are minor. Further testing made it possible for them to assign numerical weights to each type of life change. They then compiled life change scores from thousands of people in all walks of life and compared them to the medical histories of the same individuals. They found that those with high life-change scores were more likely to be ill the following year than those with low life-change scores, and the higher the score, the higher the risk that the illness would be severe.

In addition, Rahe, McKean and Arthur in a study of 3,000 Navy men found that they could use life-change scores to predict the sickness patterns of the men during a six-month stint at sea. Men in the upper ten percent of life-change units suffered one and one half to two times more illness than those in the bottom ten percent. Although research investigating the relationship of change to illness is continuing, Toffler (1970:296) concludes that ". . . one lesson already seems vividly clear: change carries a physiological price tag with it. And the more radical the change, the steeper the price."

Stress and Coronary Heart Disease. One of the more serious effects of stress is coronary heart disease (French and Caplan, 1972; Friedman and Rosenman, 1974; Howard et al., 1975; Zaleznik et al., 1977). The research of Friedman and Rosenman has shown that there is a behavioral syndrome that is significantly related to coronary heart disease. Friedman and Rosenman (1974) using data collected in an eight and one half year study of 3,500 men have identified two general types of behavior characterized as follows:

Type A

- competitive
- achiever
- aggressive
- fast worker

- impatient
- restless
- hyper-alert
- explosive of speech

- tense face muscles
- feeling of being under pressure

Type B

- relaxed
- easy going
- seldom impatient
- takes time to enjoy avocational pursuits
- not easily irritated
- works steadily
- seldom lacks time
- not preoccupied with social achievement
- moves and speaks slower

The Type A person is described as exhibiting behavior that is often rewarded by progression up the ladder. He is ambitious and competitive and characterized by intense drive and aggressiveness. Often pitting himself against the clock and feeling a constant pressure to get things done, the Type A individual exhibits a constant sense of time urgency and has difficulty handling idleness which he generally sees as wasted time. Tending to schedule more and more into less and less time, he shows impatience with the rate at which most events take place. He talks, moves, walks and eats quickly and is always on time or just a little early. The Type A person is a hard worker and likes to think about and do several things at the same time.

Friedman and Rosenman (1974) report that Type A individuals have been more than twice as prone to coronary heart disease, five times more prone to a second heart attack, and have had fatal heart attacks twice as frequently. Nearly half of their sample of 3,500 exhibited Type A behavior. Although Type A and Type B are the polar opposites of the behavioral syndrome, Friedman and Rosenman's typology contains four categories: A1, A2, B3 and B4. A1 and B4 represent fully developed or extreme Type A and Type B behavior; whereas, A2 and B3 represent the behaviors in their less developed form.

The work of Friedman and Rosenman has been extended in other studies. Howard et al. (1975) in a study of Canadian managers, classified approximately 60 percent as Type A's with 27 percent of those being fully developed Type A1's. In contrast, only 12 percent of the repondents were classified as fully developed Type B4's. Using several measures of health to compare Types A and B, Howard et al. (1975) found the Type A1's to be extremely high on a number of coronary risk factors and concluded that they run a 50 percent greater risk of coronary heart disease, based on traditional risk factors alone.

Also of importance is the speculation that Type A's may not make good top level managers. Howard et al. (1975:5-6) report finding few Type A's in high management positions in the companies that they studied. They speculate that one or more of the following explanations may be relevant: (a) The qualities found in Type A individuals may be more desirable in middle but not top management. (b) Managers may change and, while Type A behavior might be desirable in middle levels, a mellowing effect may occur. (c) Type A managers simply die off earlier and are not around in numbers for promotion. (d) Job conditions at the top are not such that they elicit Type A behavior. Although there is some difference in opinion as to whether certain role requirements elicit Type A behavior or whether having a Type A personality affects the role perceptions of the individual, there is general agreement about the correlation of Type A behavior with stress. There is also general agreement that a majority of the people in middle management positions exhibit Type A behavior.

A number of managerial stress studies by Howard, Rechnitzer and Cunningham (1975a, 1975b) have enabled them to develop measurement techniques of the primary and secondary risk factors in coronary heart disease. Two of their studies were initiated by organizations: the first because top employees were demonstrating symptomatic intolerance to stress caused by organizational changes, and the second because the organization's "bench strength" was becoming seriously depleted through the ravishes of coronary heart disease.

Evaluations were made of seven primary risk factors: blood pressure, both systolic and diastolic; cholesterol levels; triglyceride levels; smoking habits; coronary history and heredity; ECG recording; and diabetes. The five secondary risk factors included assessment of behavior type (A or B), serum uric acid, weight, physical activity, and cardio-respiratory fitness. Finally, three stress indicators were assessed: stress symptoms reported, life change events, and job satisfaction. The researchers report that each of these is known to be related to stress levels.

As a result of this type of testing, individuals may be informed of abnormalities or excesses on any of the risk factors. They may also be given their chances of developing coronary heart disease within the next six years. Howard et al. (1975b:78) report as follows:

> The need for this type of testing, which is basically preventive medicine, stems from the fact that coronary heart disease gives no early warning signals. The tragedy in heart disease is that it is swift, sudden and unannounced. All the individual can do is understand the risk factors, monitor them regularly, and maintain them at recommended values.

Johns (1974:119) reports that investigations into the relationship between stress and coronary heart disease (CHD) have been of three main types:

> (1) the search for psycho-social characteristics which distinguish people with CHD from others;
> (2) investigations among people who are thought to live under high or low levels of stress to see if their incidence of CHD is affected;
> (3) investigations into the relationship between stress and the other factors which are known to be associated with CHD, e.g., blood pressure, serum cholesterol, smoking history.

These three types have been combined in the "human resource accounting" approach of Howard et al. (1975b) who suggest that organizations as well as individuals should be aware of changes and conditions that affect the health of employees. As with individuals, organizations are capable of adaptation before it is too late.

Burn-out

Burn-out has been defined as emotional exhaustion leading to a decrease in goal-directed achieving and self-enhancing behavior and an increase in self-destructive behavior. Burn-out, therefore, focuses on the psychological and emotional results of stress rather than on the physiological. Maslach (1978a:58) reports that a theme emerging from her research ". . . is that the source of the problem lies more in the situation than in the people and that the problem is best understood and modified in terms of the social and situational sources of the job-related stresses."

Maslach's studies of burn-out have mainly examined the helping professions: social workers, psychologists, poverty lawyers, prison guards, teachers, police officers and child care workers. Maslach claims that the stress helping professionals experience because of constant involvement with people who have problems can lead to a loss of the care and commitment that once characterized their attitudes. This loss of caring and commitment can lead to feelings of burn-out. Edelwich (1980:15) believes that burn-out:

> . . . does not occur with anything like the same regularity or carry with it the same social costs in business as it does in the human services, where it takes on a special character and a special intensity. Wherever people are working with people, the consequences of this thing that we call burn-out are felt: (1) The idealistic expectations of the 'helpers' are frustrated. (2) Services to clients are compromised. (3) Society, along with the social service institution, incurs high costs.

According to Maslach, there are three phases to burn-out. The initial phase might be labelled Physical Fatigue. Those affected develop increased feelings of emotional exhaustion and fatigue. As emotional resources are depleted, they feel that they are unable to give of themselves as they did earlier. Symptoms are lateness, tiredness, absenteeism, complaining, inflexibility, blaming, drug and alcohol abuse, moral devaluation, a negative attitude and over compensation. The second phase might be labelled Psychological Fatigue. People develop cynical, negative attitudes towards their clients. Maslach describes this feeling as dehumanization or depersonalization. Symptoms are greater discounting of the positive, boredom and anger, petty arguments, cynicism, irritability, jealousy of colleagues, greater isolation and alienation, loss of concern for clients, taking inappropriate risks, and questioning the value of the job. The third phase might be labelled Spiritual Fatigue. Maslach describes this phase as a lack of feeling of personal accomplishment. The person has a tendency to evaluate himself negatively, particularly with regard to his clients. Symptoms are bitterness and lack of options, rigidity, alienation, disillusionment, becoming an exaggerated house critic, taking more and greater risks, exhibiting more bizarre behavior, questioning the value of life, high job turnover, and low morale.

Maslach maintains that it is crucial to view the three phases of burn-out as independent. One phase does not inevitably lead to another phase. Also, it is not appropriate to classify a person as "burned out" or "not burned out". What is important is to assess the degree to which a person is experiencing the feelings associated with each of the phases. Maslach and Jackson (1979:22-23) describe the sub-scales of the Maslach Burn-out Inventory as follows:

A. Emotional Exhaustion
   1. I feel emotionally drained from my work.
   2. I feel used up at the end of the workday.
   3. I feel fatigued when I get up in the morning and have to face another day on the job.
   6. Working with people all day is really a strain for me.
   8. I feel burned out from my work.
   13. I feel frustrated by my work.
   14. I feel I'm working too hard on my job.
   16. Working directly with people puts too much stress on me.
   20. I feel like I'm at the end of my rope.

B. Depersonalization
   5. I feel I treat some recipients as if they were impersonal 'objects.'
   10. I've become more callous toward people since I took this job.
   11. I worry that this job is hardening me emotionally.
   15. I don't really care what happens to some recipients.
   22. I feel recipients blame me for some of their problems.

C. Personal Accomplishment
   4. I can easily understand how my recipients feel about things.
   7. I deal very effectively with the problems of my recipients.
   9. I feel I'm positively influencing other people's lives through my work.
   12. I feel very energetic.
   17. I can easily create a relaxed atmosphere with my recipients.
   18. I feel exhilarated after working closely with my recipients.
   19. I have accomplished many worthwhile things in this job.
   21. In my work, I deal with emotional problems very calmly.

A high degree of burn-out is reflected in high mean scores on A and B and low mean scores on C. Feelings of burn-out are, therefore, symptomatic of work-related stress.

STRESS AND BEHAVIOR IN ORGANIZATIONS

As mentioned earlier, neither "stress" nor "behavior in organizations" are very precise concepts. McGrath (1976), however, after an extensive review of the literature, has derived a general paradigm for conceptualizing stress, and numerous writers have developed models for studying stress.

Whereas Selye focuses on the physiological aspect of stress, McGrath (1976:1352) focuses on social-psychological stress, the limitation referring:

> . . . not so much to classes of variables measured as to the manner in which we will interpret the variables. Thus, for example, we do not mean to exclude physiological data, but will look upon such data as evidence of social-psychological states or processes, rather than attempt to investigate the physiological processes and mechanisms which produce these states. Nor will we exclude purely physical variables (e.g., cold, noise); rather, we will deal with them as they become antecedent conditions contributing to social-psychological events.

Within this context, importance is placed not so much on what stress is, but rather on the sets of conditions required before a situation will be treated as having stress in it. McGrath (1976:1352) provides a working definition of stress as follows:

> . . . there is a potential for stress when an environmental situation is perceived as presenting a demand which threatens to exceed the person's capabilities and resources for meeting it, under conditions where he expects substantial differential in the rewards and costs from meeting the demand versus not meeting it.

Of note in the working definition are (1) it is what the person "perceives" that is important, whether or not that perception is accurate; and (2) the "degree" of the "demand" or "differential" may have some effect on the amount of stress experienced. McGrath's paradigm for the study of stress is presented in Figure 4.

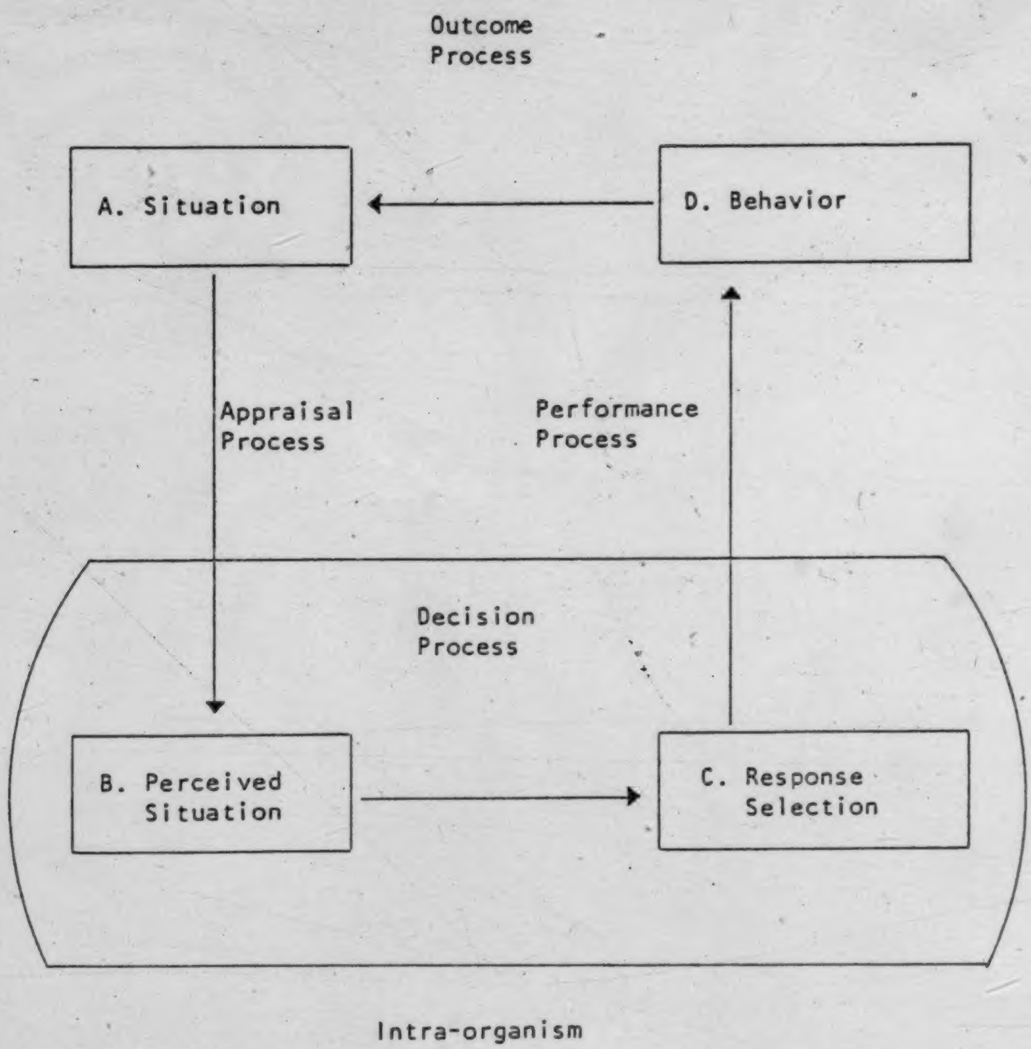

Outcome
Process
A. Situation
D. Behavior
Appraisal
Process
Performance
Process
Decision
Process
B. Perceived
Situation
C. Response
Selection
Intra-organism

Figure 4. A paradigm for analysis of the stress cycle.
McGrath (1976:1356)

The "stress situation" is viewed as being composed of a four-stage, closed-loop cycle. McGrath (1976:1356) describes it as follows:

> It begins with some condition(s) or set of circumstances in the socio-physical environment. If the situation is perceived by the focal person (with reference to whom it is a potentially stressful situation) as leading to some undesirable state of affairs if left unmodified (or some desirable state of affairs if modified), then it becomes a "stressful situation" -- whether that perception is accurate or not. The focal person then "chooses" some response alternative (including escape or inaction). Then, he executes that response with the intention of changing his relation to the situation (in a "favorable" direction). That response does, in fact, have some consequences for him and for the situation though not necessarily the intended ones.

As is indicated in Figure 4, the four stages are connected by four linking processes. It is these linking processes, according to McGrath (1976:1356-7), which provide the substance for the study of stress.

> The first of these processes, which links stage A with stage B, is what Lazarus (1966) has called "cognitive appraisal," what Hackman (1970) has called redefinition, and what is indicated in Figure 4 simply as the appraisal process. The experience of stress or threat, as a subjective state, is a function of such appraisal -- whether the appraisal is accurate or not. (Under some conditions, subjective stress may occur as the result of appraisal of an "objectively" benign environment; conversely, a really dangerous situation may not be perceived as such and thus may not lead to subjective stress.)
>
> The second process link, between stage B and stage C, is essentially a decision-making process. It involves relating the situation (as perceived) to the available alternatives, and "choosing" a response or set of responses intended to deal with the undesirable features of the situation. Lazarus (1966) has used the term "secondary appraisal" to refer to this process. The operation and effectiveness of this process will depend on (a) the outcome of the prior appraisal process; (b) the organism's past experience; (c) his current state (e.g., fatigue); and (d) the contents and organization of his response repertoire and his available resources.
>
> The third link, between stage C and stage D of the cycle, is the response process or performance. It results in a set of behaviors which, in principle, can be evaluated in terms of quantity, quality, and speed. The level of performance depends on ability, on task difficulty, and on the standards (of quality, quantity, speed) used to assess performance.

There is a fourth process link, between stage D (behavior) and stage A (situation). This is the link between the behavior of the focal person and its consequences for the situation. It is an outcome, or effect, or change process. This link is often overlooked, perhaps because it occurs "outside" the individual. While the extent to which the chosen response results in desired behavior depends on the performer's ability to execute his decision (i.e., to do what he intends to do), the extent to which the behavior results in desired (or undesired) changes in the situation depends not only on the level of performance, but also on several other factors which are not under control of the focal person:

(a) The performance level, and timing, of others who are in facilitative interdependence with the focal person (teammates).

(b) The performance level, and timing, of others who are in contrient interdependence with the focal person (opponents).

(c) The nature, strength, and certainty of the behavior-situation effect.

In studies where the subject may be observed in a stressful situation, the four links in the process may be analyzed separately. For this study, the paradigm is useful in isolating the appraisal process and its perceptual nature. If a situation is perceived by an individual to have stress in it, it will become a stressor for that individual. Also important is the degree and frequency of the demand.

Models of Stress

As with definitions of stress, there are almost as many models of stress as there are studies. French and Caplan (1972:31) adopt a model in which occupational stresses such as role ambiguity, role conflict, role overload (quantitative and qualitative), crossing organizational boundaries, responsibility for people, relations with others, participation and occupational differences lead to psychological and physiological strains including job dissatisfaction, job tensions, job-related threat, low self-actualization, smoking, blood pressure, cholesterol, heart rate and low self-esteem. How the stresses lead to strain is mediated by personality characteristics of the individual such as abilities and needs, introversion-extroversion, flexibility-rigidity and Type A behavior. French and Caplan believe that the strains eventually lead to coronary heart disease. Many studies have been based on this model.

Cooper and Marshall (1976:12) present a similar model to that of French and Caplan but add that extra-organizational sources of stress may be a mediating factor along with personality characteristics. They also delineate in more detail what might be sources of stress at work. These include sources that are intrinsic to the job (poor physical working conditions, work overload, time pressures, physical dangers, etc.); sources that are related to the individual's role in the organization (role ambiguity, role conflict, responsibility for people, conflicts re: organizational boundaries - internal and external - etc.); sources that relate to career development (overpromotion, underpromotion, lack of job security, thwarted ambition, etc.); sources intrinsic to relationships at work (poor relations with boss, subordinates, or colleagues, difficulties in delegating responsibility, etc.); and sources related to organizational structure and climate (little or no participation in decision-making, restrictions on behavior such as budgets, office politics, lack of effective consultation, etc.)

Neither French and Caplan nor Cooper and Marshall account for the importance of perception or feedback in their models. Gmelch (1977:13) describes a stress filter system model that suggests that each individual has a personal set of filters through which he perceives potential stressors. These filters include such things as temperament, past experience, amount of control, information available and degree of importance of the event. The variety of individual responses and reactions to any one event would be accounted for because of the uniqueness of each individual's filter system. Although Gmelch addresses the issue of perception, his model does not provide for feedback either.

Several writers (House, 1974; Wild and Haynes, 1976; and Fineman, 1979) have provided elaborate models that take into account both the perceptual nature of the environmental demand or stressor and the importance of feedback loops. However, for the purposes of this study the model provided by Kyriacou and Sutcliffe (1978a) is deemed to be most appropriate as it combines the important features of the previous models and is designed specifically for teachers.

The Kyriacou and Sutcliffe (1978a:3) model of teacher stress is presented in Figure 5. The model distinguishes between potential stressors (box 1) and actual stressors (box 3) depending on the teacher's perception as to whether the stressor constitutes a threat to his esteem or well-being (box 2). The model also suggests that the appraisal process may be affected by potential non-occupational stressors (box 8), by characteristics of the individual (box 7), by coping mechanisms the teacher has adopted (box 4) and by stress the teacher has experienced (box 5). Coping mechanisms are also partly determined by the characteristics of the individual. Teacher stress (box 5) is conceptualized by Kyriacou and Sutcliffe (1978a:4) ". . . as being directly related to the degree to which the coping mechanisms are unable to deal with actual stressors and the degree to which the teacher appraises threat." The response correlates may be psychological (dissatisfaction), physiological (headaches) or

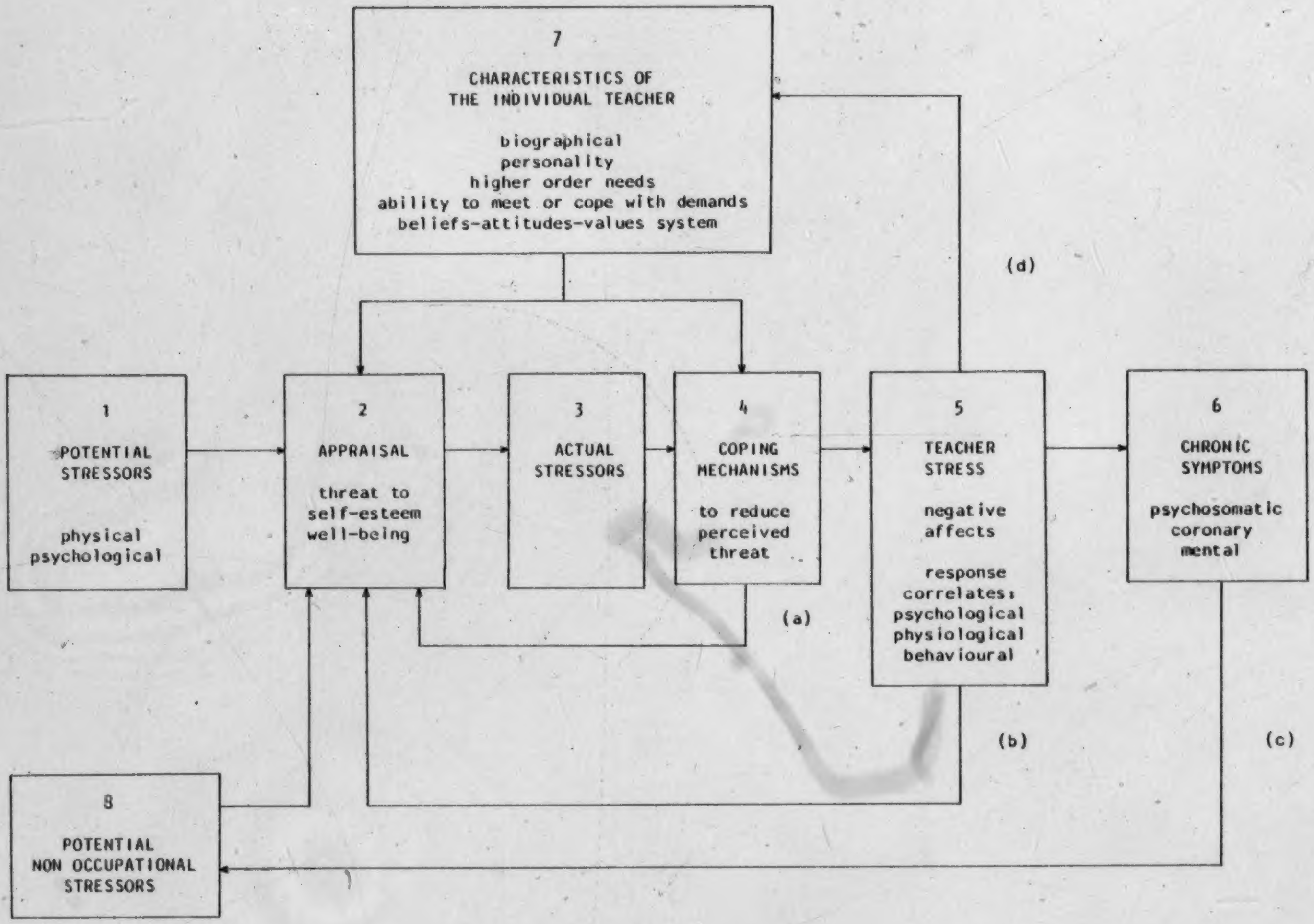

7
CHARACTERISTICS OF
THE INDIVIDUAL TEACHER
biographical
personality
higher order needs
ability to meet or cope with demands
beliefs-attitudes-values system
1
POTENTIAL
STRESSORS
physical
psychological
2
APPRAISAL
threat to
self-esteem
well-being
3
ACTUAL
STRESSORS
4
COPING
MECHANISMS
to reduce
perceived
threat
5
TEACHER
STRESS
negative
affects
response
correlates:
psychological
physiological
behavioural
6
CHRONIC
SYMPTOMS
psychosomatic
coronary
mental
8
POTENTIAL
NON OCCUPATIONAL
STRESSORS
(a)
(b)
(c)
(d)

Figure 5. A model of teacher stress. Kyriacou and Sutcliffe (1978a:3)

behavioral (early retirement). Teacher stress over time may lead to chronic symptoms (box 6). Finally, there are four important feedback loops: (a) between coping mechanisms and how they may affect appraisal, (b) between teacher stress itself and how it may affect appraisal directly, (c) between ill health which in turn becomes a nonoccupational stressor and may affect appraisal indirectly, and (d) between teacher stress and how it may affect the individual's appraisal of his ability to meet and cope with new demands. The Kyriacou and Sutcliffe model thus incorporates most of the current approaches utilized generally in studies of occupational stress.

Behavior in Organizations

To provide a framework for identifying potentially stressful situations , McGrath (1976:1367) suggests that behavior in organizations may be conceptualized as the interaction of three conceptually independent systems:

> (a) The physical and technological environment in which the behavior takes place;
> (b) The social medium, or patterns of interpersonal relations, within which the behavior occurs; and
> (c) The "person system" or "self-system" of the focal person whose behavior is to be considered.

McGrath's general framework for analyzing behavior in organizations is presented in Figure 6. The three two-system intersections are labelled Behavior Setting, Task, and Role. McGrath (1976:1369) suggests that behavior in organizations may thus be defined as ". . . the actions of organizational members, on organizational tasks, in organizational roles, in organizational behavior settings."

McGrath's framework indicates six potential sources of

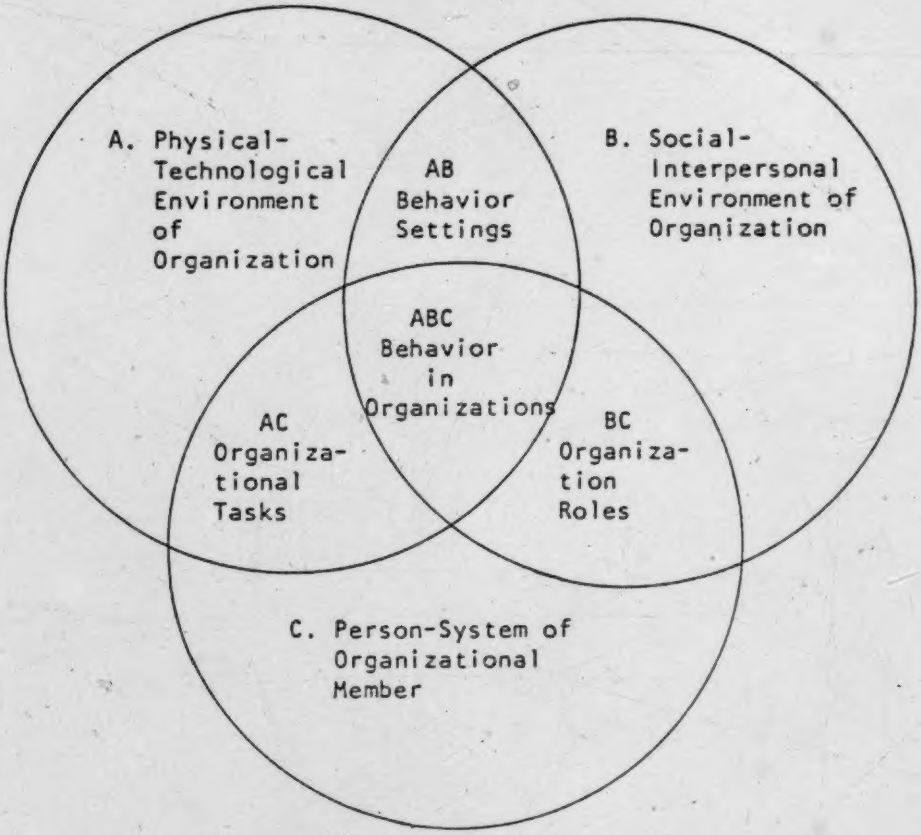

A. Physical-Technological Environment of Organization
AB Behavior Settings
B. Social-Interpersonal Environment of Organization
ABC Behavior in Organizations
AC Organizational Tasks
BC Organization Roles
C. Person-System of Organizational Member

Figure 6. Three embedding systems for behavior in organizations. McGrath (1976:1368)

stressful situations: task-based stress, role-based stress, stress intrinsic to the behavior setting, stress arising from the physical environment itself, stress arising from the social environment (in the sense of interpersonal relations), and stress within the person system (which the focal person brings with him to the situation.) McGrath (1976:1369) speculates that:

> It is likely that effects of the stress differ depending on the source. It is also likely that effective behaviors for coping with stress, and especially organizational "design" procedures for preventing its occurrence, may differ for stresses arising from these six different sources.

McGrath's framework serves as a useful guide for exploring organizational sources of stress. In the following section a few of the studies that have attempted to identify general sources of stress are reviewed.

ORGANIZATIONAL SOURCES OF STRESS

Many theories of organizational behavior are based on a premise that the organization is composed of a system of roles. For effective functioning of the organization, individuals require accurate perceptions of their role requirements. They must have some degree of certainty about what other organizational members expect of them (role accuracy), have some sense of certainty about how to meet those expectations (role clarity) and have agreement with others about what the expectations should be (role consensus). Psychological stress is assumed to result from the absence of these three dimensions; individual satisfaction and greater effectiveness in the functioning of the organization is assumed to result from their presence. Greene and

Organ (1973:95) report that ". . . individual activities cannot be coordinated toward organization goals without role accuracy, clarity, and consensus." Role conflict and role ambiguity have, therefore, been identified as major sources of stress.

Role Conflict and Role Ambiguity

A number of studies have been designed to explore the extent to which the existence of role conflict and role ambiguity in complex organizations results in dysfunctional individual and organizational consequences. One of the earlier and more comprehensive studies is reported by Kahn et al. (1964:7) who state that the principal objectives were:

1. To explore the extent of role conflict and role ambiguity in industrial positions;
2. To identify the kinds of situations which are characterized by a high degree of conflict and ambiguity;
3. To determine the association between such conditions and several broad criteria of personal adjustment and effectiveness; and
4. To explore the extent to which such effects are modified by certain characteristics of the individual and of his interpersonal relations.

These objectives were pursued in an intensive study examining 53 focal offices in 6 industrial locations and in a national survey of 725 persons representing that portion of the labor force employed in the United States during the spring of 1961.

"Sent role conflict" was defined by Kahn et al. (1964:19) as ". . . the simultaneous occurrence of two (or more) sets of pressures such that compliance with one would make more difficult compliance with the other;" whereas, "role ambiguity," in general, was defined (1964:25) as ". . . the degree to which required information is available to a given organizational position."

Role conflict was found to be commonly experienced in the work setting. Close to half of the respondents reported being caught "in the middle" with 88 percent of those reporting the conflicts to be hierarchical with a party above them in the organization. Somewhat less than half reported that a conflicting party was outside the organization. Almost half of the respondents reported role overload, described by Kahn et al. (1964:380) to be ". . . conflict among legitimate tasks or a problem in the setting of priorities . . . ." Kahn et al. (1964:380) report that the emotional costs of role conflict for the person include ". . . low job satisfaction, low confidence in the organization, and a high degree of job-related tension," with avoidance or withdrawal being a frequent response.

Similar prevalence of role ambiguity was reported. Kahn et al. (1964:380) indicate that four subjects of ambiguity were found equally troublesome and disturbing by the respondents: uncertainty about how the supervisor evaluates performance, uncertainty about opportunities for advancement and promotion, uncertainty about scope of responsibility, and uncertainty about the expectations of others regarding performance. Kahn et al. (1964:380-381) report:

> The individual consequences of ambiguity are in general comparable to the individual effects of role conflict. These include, for ambiguity: low job satisfaction, low self-confidence, a high sense of futility, and a high score on the tension index. There is evidence, however, that the response of the person to ambiguity is selective. For example, ambiguity regarding the evaluations of others does not decrease the intrinsic satisfaction of the employee with the job, although it does decrease his self-confidence and weaken his positive affect for co-workers.

The major organizational determinants of conflict and ambiguity reported by Kahn et al. (1964:381) include three role requirements: ". . . the requirement for crossing organizational boundaries, the requirement for producing innovative solutions to nonroutine problems, and the requirement for being responsible for the work of others." Frequency and importance of boundary-spanning contacts were reported to be associated with role conflict and experienced tension, with the greatest tension being experienced by those who had discontinuous contacts. Kahn et al. hypothesize that some of the reasons why boundary-spanning roles are stressful are that the "spanner" has limited control over the outsiders, that he tends to be blamed by his own organization for what the outsiders do or fail to do, and that he tends to be blamed by the outsiders for what his organization does. Those who occupy innovative roles, on the other hand, complain that routine administrative activities and paper work get in the way of their creative pursuits. Finally, roles with supervisory responsibility are a major organizational determinant of role conflict. Kahn et al. (1964:382) conclude:

> There is a systematic relationship . . . between rank and role conflict, as there is between rank and tension. The often heard assertion that the lowest levels of supervision are subjected to the greatest conflict is not borne out by these data. Rather, there is a curvilinear relationship in which the maximum of conflict occurs at what might be called the upper middle levels of management. We interpret this in part as a consequence of the still unfulfilled mobility aspirations of middle management, in contrast to the better actualized aspirations of top management people.

In their conclusions about the significance of interpersonal relations, Kahn et al. (1964:383) report that the greatest amount of pressure is exerted by people in the same department who are the focal person's superiors in the hierarchy and who are dependent on his performance to the extent that they care about its adequacy. "The deleterious effects of role conflict are most severe when the network of the individual's organizational relations binds him closely to members of his role set." His response is typically one of apathy, withdrawal, low job satisfaction, and a sense of futility. Although psychological and physical withdrawal as a means of coping may alleviate the effects of stress for a time, it leaves the initial conflict unresolved and may in the longer run prove self-defeating.

In summary, Kahn et al. (1964) suggest that when behaviors that are expected of an individual are inconsistent, the individual will experience organizational stress and he will perform less effectively than if the expectations imposed on him did not conflict. Lack of necessary information available to a given organizational position, or role ambiguity, on the other hand, will result in coping behavior by the role incumbent. The coping behavior may take the form of attempts to solve the problem to avoid the source of stress or use of defense mechanisms which may distort the reality of the situation. Role ambiguity increases the probability that an individual will be dissatisfied with his role, will experience anxiety and job-related tensions and thus perform less effectively. Role conflict and ambiguity may thus be termed "organizational stressors."

Rizzo, House and Lirtzman (1970) and House and Rizzo (1972a&b) report various aspects of a study of a large, heavy equipment manufacturing company in the United States. The model of organizational behavior they developed utilized measurements of management practices and leader behavior as predictor variables; role conflict and role ambiguity as intervening variables; and measures of perceived organizational effectiveness, employee satisfaction, anxiety, and propensity to leave the organization as dependent variables.

House and Rizzo (1972a:487) report that ". . . the strongest zero order relationships occur between the independent variables and the intervening variables of role conflict and role ambiguity." Role conflict was most strongly related to the independent variables of supportive leadership and organizational practices and the dependent variables of perceived organizational effectiveness. Role ambiguity, on the other hand, was strongly related to all independent variables and the dependent variables of satisfaction and organizational effectiveness. The dependent variables most accounted for by variance in the independent variables were consistently the measures used for organizational effectiveness. The effects of holding role ambiguity and role conflict constant revealed ambiguity to be more pervasive and consistent across relationships. House and Rizzo (1972a:500) conclude that this is significant since ". . . the literature often emphasizes role conflict more than role ambiguity."

Miles (1975, 1976a,b&c) and Miles and Perreault (1976) report a study of 202 professional-level members of nine governmental research and development agencies in the United States. In constructing a theoretical role conflict model, Miles and Perreault (1976:22) suggest that certain objective role requirements including the importance of selected job activities (integration and boundary-spanning activities, personnel supervision, scientific research) and role-set characteristics (organizational distance of role senders, formal authority of role senders) lead to role perceptions including multivariate conflict orientations (person-role conflict, intersender conflict, intrasender conflict, overload conflict), which in turn lead to individual outcomes including job-related tension, job satisfaction, perceived performance effectiveness and attitudes toward role senders. Reporting an empirical test of causal inference between role perceptions of conflict and ambiguity and various personal outcomes, Miles (1975:334) concludes:

> Tests of causal relationships between experienced role conflict and job-related tension, job satisfaction, and attitudes towards role senders were inferred to be indeterminate, while causal direction was inferred between role ambiguity and both job satisfaction and attitudes toward role senders.

Greene and Organ (1973:95) in a study of 142 managerial dyads from the financial and research development divisions of four large American industrial organizations reported that compliance and performance evaluation were found to be important variables mediating the relationship between role accuracy and satisfaction. Greene and Organ (1973:100) suggest that:

> In the sample studied, the correlation between role accuracy and compliance was rather high, yet it is likely that in such a sample the level of role accuracy would be less than in a sample of operative or less skilled employees, since professional jobs and jobs at higher organizational levels tend to be less structured and defined. Perhaps as a consequence, role accuracy was more important to the respondents, and indeed, results of several studies suggest that conditions such as role accuracy are considered to be more important by professionals than by less skilled participants.

In a study of sixty-one high-level managers who were participating in an executive development program in the United States, Hamner and Tosi (1974) examined the relationship of role conflict and role ambiguity to the following job involvement variables: job satisfaction, propensity to leave, participation, and job threat and anxiety. Hamner and Tosi (1974:498) report that for the sample, role conflict was not significantly related to either job satisfaction or propensity to leave but that there was a trend toward and negative relation to amount of reported influence (participation) and positive relationship with perceived threat and anxiety. On the other hand, role ambiguity was negatively correlated with job satisfaction and positively correlated with job threat and anxiety but not significantly correlated with propensity to leave. Hamner and Tosi (1974:499) point out that:

> This study supported the findings of Rizzo et al. (1970) and House and Rizzo (1972) which showed role ambiguity was related to job satisfaction, while role conflict was not. The findings of this study conflicted with the findings of Tosi (1971) and Tosi (1970) who reported that role conflict was related to job dissatisfaction, while role ambiguity was not.

This discrepancy in the findings was hypothesized to be related to the organizational level of the respondents. Those respondents at the lowest level in their organizations and performing primary operating functions reported role conflict as presenting the greatest problems. Hamner and Tosi (1974:499) speculate that such persons know how to perform their jobs which are well defined for them. For individuals in higher level positions, and especially managerial roles, where the job involves solving unstructured problems, lack of job clarity is a primary concern. However, Miles (1976b:26) suggests that "It is probably more accurate to explain this hypothesized moderator effect on the basis of difference in role requirements rather than differences in organizational level."

Moderators of Role Conflict and Role Ambiguity

Some evidence in the literature suggests that not all individuals perceive objective conditions in the same way or cope with experienced role stress with the same degree of effectiveness. Kahn et al. (1964) found that differences in personality factors such as introversion, flexibility, need for clarity, and need for occupational achievement moderated the relationship between objective conflict and experienced strain. French and Caplan (1972) report that individual behavior type (Type A Behavior) is an important moderator in the relationship. Lyons (1971) reports that individual need for clarity was an important moderator between perceived role clarity and voluntary turnover, propensity to leave, and work satisfaction for a sample of United States nurses. Johnson and Stinson (1975:329) report that need for achievement moderates relationships between intersender role conflict and satisfaction and between task ambiguity and satisfaction, while need for independence moderates the relationship between intersender conflict and satisfaction as perceived by 92 military officers and civil service personnel engaged in administrative work at two large military bases in the United States.

Other studies have also sought to identify moderators. For example, Miles (1976a) investigated the extent to which boundary-spanning activities were perceived as organizational stressors and the extent to which such perceptions were moderated by individual differences of the respondents. Miles (1976a:95) reports that nine of the relationships between role perceptions and outcomes in his study appeared to be moderated by individual differences in self-perceptions:

> Persons with low occupational achievement needs report significantly more job-induced tension and anxiety, and significantly less job satisfaction and less favorable interpersonal relations, in response to role conflict than persons with relatively high needs for occupational achievement . . . . Persons with low supervisory ability appear to cope less effectively with the experience of ambiguity on the job.

Schuler (1977:98) hypothesized that employee ability would reduce the negative relationships between role perceptions and satisfaction and performance, and that the effect of ability would be moderated by the organizational level of the employee. However, his study of employees from a large manufacturing firm and a large utility failed to support the hypothesized relationships. The results nevertheless suggested that employees with high ability were less affected by role ambiguity than employees with low ability.

Hackman and Lawler (1971:266) hypothesized that individual differences in desire for higher order need satisfaction would moderate the relationships between job characteristics and the dependent variables such as experienced work motivation, job involvement and job satisfaction. Hackman and Lawler (1971:280) conclude from their study of 208 telephone company employees that ". . . the data make a strong case for the moderating effect of individual higher order need strength in determining the effects of job characteristics on employee behavior and attitudes at work." On the other hand, in a study of 152 nursing aides and assistants, Brief and Aldag (1976:470) formed high and low higher order need strength subgroups and examined the significance of differences between subgroup correlations. No significant differences were evident. Thus, the evidence regarding the moderating effect of higher order need strength is contradictory.

Objective Role Requirements

There is evidence in managerial studies to suggest that workers who are faced with supervisory responsibility, competitiveness, heavy work loads, and conflicting demands experience more stress than workers at lower levels of the occupational hierarchy. Moreover, there appears to be an hierarchical effect with middle managers experiencing the most strain. Kiev (1974:73) reports that the middle manager ". . . is caught between conflicting needs and demands from those above and below him on the organizational chart."

Often cited in the literature on role conflict and role ambiguity is the industrial job of foreman. The foreman is seen as "the man in the middle," who on one hand is expected to identify with and represent the worker's point of view and on the other is expected to be responsible to management. Associated with his job is a higher incidence of ulcers than that found either in the management above him or the workers below him on the organizational chart. Also often cited is the job of salesman. In his role, the salesman is caught between his customer's demands and the willingness of his organization to respond to those demands. Both foreman and salesman experience two sets of pressures. Compliance with one make compliance with the other more difficult. Similar conditions may obtain for various roles in educational organizations, especially the roles of teacher and principal.

Leadership roles. Leadership roles seem to exact a price in increased stress. Boles and Davenport (1975:17) state:

> The fact that an individual is a leader gives one added visibility which, in addition to making one more vulnerable, adds to the strains of living. The leader is expected to be able to sustain examination of his or her behavior by many people from inside and outside the social system in which he or she works.

Connected with this is the trend toward more participatory practices in decision making. French and Caplan (1972) indicate that people who participate in making decisions which affect their work report lower psychological stress, higher productivity and greater job satisfaction. Yet, participatory practices often increase the stress encountered by the manager who employs them. His major concern may be loss of authority and management prerogative.

Level of responsibility. Level of responsibility also seems to have considerable stress consequences. Most research on corporations suggests that top jobs are less stressful than middle-level jobs, a finding which may reflect the individual's capacity to influence his job environment. The man at the top seems to have some ability to manipulate his environment; whereas, workers at lower levels lack this ability and seem to experience a higher burden of adaptation. Coupled with unfulfilled mobility aspirations, this seems to make mid-management jobs more stressful. Howard (1973:78) suggests that "Having power and freedom to influence one's work environment rather than continuously adapting to the environment is a critical factor in evaluating the stress inherent in certain jobs and occupations."

Organizational success criteria. Gowler and Legge (1975b) suggest that organizational success criteria can be a source of anxiety for the manager. Most of these success criteria are found implicitly or explicitly in the goals and objectives of the organization and are transformed into the criteria for evaluating the manager's performance. Many managers, unless they happen to be in production and marketing, have difficulty in relating what they do to organizational success criteria. Personnel managers, for example, are more likely to be concerned about "means" than "ends." They are not engaged in activities that have tangible and measurable outcomes for which they can legitimately claim responsibility. Similarly, many managers in human service organizations, where goals are often unclear or indeterminate, face the problem of establishing unambiguous and acceptable success criteria for assessing their performance. Lack of these leads to perceived inability to achieve and greater levels of stress.

Gowler and Legge (1975b) indicate that one way managers attempt to cope is by routinizing their work, transforming means into ends and concentrating their time and energy on everyday activities that would have to be done whatever the goals of the organization might be. Another way of coping is through innovative behavior that attempts to change the means to better match the accepted ends or attempts to change both means and ends. Neither of the coping behaviors is likely to be productive for the individual or the organization.

Relationships. In his study of 150 executives from large corporations, Kiev (1974:164-165) concluded that:

> Much of the psychological stress experienced by executives results not from business problems but from the relationships which exist between superior and subordinate at all levels of the organization. The relationship between the chief executive and his top management team, between the task leader and his team of technical experts, between the foreman and his assembly-line crew resembles the relationship between teacher and pupil, doctor and patient, father and son, insofar as one person by virtue of age, ability, role or experience is endowed with a greater moral authority and is expected to lead, set an example, and influence others for their mutual and individual good. Failure to understand the basic elements of this relationship accounts for much of the stress experienced by executives. Knowledge of such relationships accounts for the relative freedom of stress experienced by successful executives.

Dealing with others is, thus, an important objective role requirement when stress is considered. Morris (1975:61) identifies the "cross of relationships" as having four sources: seniors, colleagues, juniors and users and "opposite numbers", and he concludes:

> If the manager at the centre of his cross is to succeed in managing the stress that four complex and changing sets of relationships

> bring him day by day, he must find ways of balancing their respective claims. This must clearly be a dynamic balance.

Maintaining a dynamic balance, especially under conditions of change, risk, and uncertainty, is one of the challenges faced by managers.

Change and uncertainty. Managers often find themselves in situations in which innovations are being made. They may be responsible for the implementation and successful operation of the innovation yet have no part in the planning or design and little expertise in the specialized field of the innovation. Mumford (1975:119-124) suggests that in such situations, the manager faces a number of problems that are sources of stress for him: (1) the problem of defining his precise role, level of involvement, amount of control, and amount of responsibility; (2) the problem of acquiring the knowledge and skills needed both by the manager and his staff; (3) the problem of whether the innovation will be found acceptable; and (4) the problem of reconciling different interests. The conflicts of interest, political behavior, and possible lack of authority and influence needed to carry out the responsibilities that attend any major innovation or change cause stress for the manager.

Similarly, Warmington (1975) points out that accompanying change are problems of changes in roles, problems of having outsiders within the organization, problems of career uncertainties, problems of risk and uncertainty in the task, and problems of legitimacy and acceptability. With these problems comes uncertainty which has particular significance for the manager who may be in a position to influence the outcome.

With regard to uncertainty, Burgoyne (1975:23) postulates that there is a multiplicative relationship between uncertainty about the outcome of an event, importance of the outcome of the event, and ability to influence that outcome. He cites Brady's experiment with the executive monkeys as an illustration of relevance. Brady placed two monkeys in identical chairs. They were given electric shocks every 20 seconds, unless one of the monkeys pressed a button wired to make the shock device inoperative. The other monkey also had a button, but it was not wired to anything. Consequently, he received the same shocks but had no influence over them. Brady found that the monkey that had influence over the shocks typically developed stomach ulcers and died within four days while the other monkey remained alive and ulcer-free. Therefore, there may be stress effects from having the ability to influence an outcome.

Howard et al. (1978:21) cite uncertainty as a prime cause of stress. Their research on managers in Canadian organizations revealed that "job dissatisfaction and stress symptoms were related: the higher the dissatisfaction with job or career, the more the symptoms." In addition, Howard et al. found the following five factors the most significant contributors to stress and dissatisfaction. They are listed in order of importance.

1. A lack of awareness with regard to opportunities for advancement and promotion.
2. A lack of awareness with regard to how performance is evaluated.
3. A feeling that the job interferes unduly with the individual's personal life.
4. A feeling that the individual lacks the authority and influence needed to carry out assigned responsibilities.
5. Too heavy a workload.

Howard et al. (1978:28) state that ". . . it's important to note that the capacity to influence the variables important to the individual's job and career has great therapeutic value in terms of stress." Furthermore, it is not responsibility itself that is stress-producing. Rather, it is responsibility without the power to influence outcomes that has the greatest stress potential.

Policies. One of the principal sources of stress in the lives of many people is the modern organization which is designed, built and operated by managers. Howard (1973:72) reports that "Many executives fail to understand or consider the consequences which certain policies and procedures have in terms of the health of managers and employees." When effects are adverse, policy or procedure may be changed. It is managers who are responsible for diagnosing their organization's needs and for minimizing the harmful effects of stress. Consequently, for both personal and organizational reasons, managers have roles to play in understanding and coping with the stress involved in organization life.

Adams (1980:193) suggests that changes in policy can also be sources of stress ". . . when (a) the change is unilaterally imposed without consultation and (b) the people affected see no functional justification for the change." Although an individual's ability to cope with stress is influenced by his personal style, the support he gets from his social environment, and his unique situation, Adams (1980c:192) claims that ". . . enlightened management can do a great deal to reduce harmful levels of stress at work."

Human Service Organizations and Stress

A number of writers claim that for people who work in human service organizations, stress and burn-out take on a special character and a special intensity. Consequences are that the idealistic expectations of the "helpers" are frustrated, services to clients are compromised, and society, along with the social service institution, incurs high costs.

Edelwich (1980) claims that there are several built-in sources of frustration in human service organizations that lead many dedicated workers to become ineffective and apathetic. To a greater or lesser degree, these are currently present in the educational system.

First, those who enter the helping professions do so with noble aspirations and high initial enthusiasm. They have a desire to help people and often become disillusioned when they discover that many of their clients aren't very much interested in receiving their help. Second, in the helping professions the lack of criteria for measuring accomplishment are difficult to determine. Major issues here are time and lack of continuity in client-helper relationships. A third factor is generally low pay except at the highest levels of the helping profession. Even then, administrators often get far less pay than their counterparts in the private sector. Fourth, if there is to be upward mobility, it is generally through the administrative channel. Not only are administrative jobs relatively scarce, but also they tend to take individuals further and further away from the clients they sought and were trained to serve in the first place. Fifth, there is a great deal of sexism. The helping professions are an area where large numbers of professional women are employed in positions of structured perceived inferiority: nurses are mostly women, doctors are mostly men; teachers are mostly women, principals and superintendents are mostly men. Sixth is inadequate funding and institutional support. Funds are generally allocated according to the political requirements of the institution, as seen by top administrators, rather than according to the needs of the clients as seen by the frontline workers who deal with the clients directly. In funding, as well as in other areas of policy, personnel from the bottom to the top of the administrative ladder see their recommendations disregarded and their decisions reversed or simply not acted upon at the next higher level. Seventh, there is what many perceive to be inefficient use of resources. It is publicly maintained that time and effort are apportioned fairly among all clients. Therefore, people in the field expend their energies unwisely, trying to be all things to everyone. This often results in a disproportionate amount of energy being spent on those who do not respond or on those who do respond. What gets lost in the middle is those clients who are "on the fence" for whom a timely intervention might make the difference between success and failure. Finally, human service organizations enjoy high public visibility coupled with popular misunderstanding and suspicion. They are a journalistic fishbowl, but the stories that reach the public are not the day-to-day successes, but, rather the occasional scandal and failure.

Other Characteristics

Howard et al. (1978:29) in a study of managers found that ". . . fewer stress symptoms were reported by people in large companies than by those from smaller companies." As the length of time in the present job increased, stress symptoms decreased. Howard et al. (1978:30) state that "Those in the first year of a new job reported stress symptoms significantly higher than in any other time period." Less stress was reported by those managers with experience in more than one company in the past 10 years than by those who worked in only one company in that period. Those who were line managers reported more symptoms of stress than those who were staff specialists, reflecting, perhaps, differences in responsibility and decision-making capacities. Furthermore, stress was found to increase as days per year travelling increased.

Howard et al. (1978:33) claim that job pressure and stress are related, but the relationship is often misunderstood. There are the "rustouts" and there are the "burnouts." The managerial "rustouts" are those who have risen to a certain level and have "settled-in." They are underchallenged and stagnating. The managerial "burnouts" are the opposite, but they often enjoy the protection of job satisfaction. Howard et al. have found job satisfaction and stress symptoms to be inversely related. "The more an individual is satisfied with his job and career, the fewer stress symptoms he reports." Howard et al. (1978:33) further report that the results of a 15-year study show that the best predictor of longevity is job satisfaction. Howard et al. (1978:48) also claim that ambition is fundamental to stress and that there are correlations between ambition and age and ambition and education. Thus, the size of the organization, the employee's time in his present job, the number of companies the person has worked for, the position the person occupies, travelling, job pressures, job satisfaction, age and education may be important individual variables in the stress equation.

TEACHERS AND STRESS

Research on stress in educational settings is generally at an early stage although several comprehensive studies have been undertaken in Britain and the United States. The major findings of some of these studies are described in the following paragraphs.

Simpson's Research

Simpson (1962) investigated sickness absences among 2,442 British teachers. Simpson (1976:14) reports:

> In teachers . . . the inception rate for short-term absences started at a high rate in the youngest age-group of 20-24 years and thereafter fell to its low point at about age 35-39 for male teachers and 40-45 for women teachers. Thereafter the rate rose to give a wave formation if plotted as a graph. In long-term absence the inception fell from age group 20-24 to reach a low level in the age groups 35-39 and 40-44 in male teachers, returning to the age 20-24 level at age 45-49 and thereafter remaining at about this level. In women teachers the annual inception rate at age 20-24 was about double that of male teachers, but the rate fell to its low point at age 40-44; thereafter the rate followed the pattern in male teachers and was of similar magnitude.

Since the highest rates of absence for both male and female teachers were found at the beginning of the teaching career, Simpson (1976) argues that stress is higher for the young teacher because he/she has not yet developed the necessary skills to deal with the sources of stress.

Other studies (Young, 1980; Brodsky, 1977; Cichon and Koff, 1980) contradict this conclusion supporting, instead, the notion that stress is cumulative over time. If sickness absence is to be used as an indicator of stress, perhaps a distinction must be made among the specific causes for the absences. It does not appear that Simpson made a distinction. His study did not investigate sources of stress. One British study that did investigate sources of stress was that of Dunham (1976).

Dunham's Research

Dunham (1976) surveyed 658 teachers in Infant, Junior and Secondary Schools and 152 teachers in a College of Education and a University Department of Education in Britain to identify stress situations and responses. Dunham (1976:19) concludes that "More teachers are experiencing stress" and that "Severe stress is being experienced by more teachers."

Dunham attributes teacher stress to a number of sources. One source was the human implications involved in the external and internal changes implemented to reorganize British schools to achieve a comprehensive system of education. Dunham (1976:21) summarizes the effects as follows:

> (1) leaving the security of familiar environments in grammar or secondary modern schools; (2) working in large schools; (3) teaching pupils who have a much wider range of abilities and attitudes; (4) major organizational and curricular changes.

Another source of stress for teachers was role conflict, both intra-role conflict where teachers are faced with contradictory expectations and inter-role conflict where teachers are expected to adopt several roles. Dunham (1976:21) states:

> Role conflict situations are experienced as teachers are subject to expectations from many different sources, which include pupils, colleagues, parents, the L.E.A., and the caretakers. They were also found in situations where the teacher's work seems to consist of a mixture of several roles. Changes in the Head of Department's responsibilities illustrate this type of role conflict. These middle managers now have administrative, pastoral and teaching tasks. Each of these demands exerts considerable

pressures on the person appointed to be head of a department.

A third source of stress was role ambiguity. Teachers experience uncertainty about the particular role they think they ought to be performing. Dunham (1976:21) indicates, "Probationary teachers may be affected by the confusion of a new school environment. Experienced teachers may be confused by the unpredictability of an unstreamed class."

A fourth source of stress was working conditions. In the Dunham (1976:21) study teachers were critical and resentful at having unsuitable working environments such as old buildings, poorly constructed buildings and noise " . . . which may be a consequence of inadequate soundproofing, open plan teaching, bells and external sources which include traffic and aircraft." The teachers also reported communication difficulties with their colleagues as being stressful. Barriers included lack of rapport and unity and lack of support for teachers with professional and personal problems. Most frequently reported as a source of stress was the Headteacher's style of leadership. Aspects of decision-making that appeared to be frustrating to a severe degree included lack of meaningful consultation, ambiguity (lack of clear directions), lack of delegation, and unpredicatable behavior.

Dunham (1976:40) suggests that the ways in which teachers respond to stress situations depend on the resources they have available to meet the demands. These include professional skills, experience, knowledge and personality characteristics and resources available in the school, the home and the community. If attempts to cope are unsuccessful, frustration will probably develop. This, in turn, may lead to the development of psychosomatic symptoms, anxiety, complete exhaustion and collapse. Dunham (1976:40) states:

> When stress situations become too great teachers may attempt to protect themselves by withdrawing from them. Absenteeism, truancy, leaving teaching, sickness absence and early retirement are some of the more obvious forms of withdrawal.

As a result of his study, Dunham (1976:21) concludes that "More knowledge is required of the stress situations which teachers experience in schools" and "More research is needed to provide this knowledge." Dunham did not report any statistical analyses of the study data.

Pratt's Research

Pratt studied 124 full-time primary teachers from schools in a large northern education authority in Britain. The aims of Pratt's (1978:4) investigation were:

> (1) to examine the levels of perceived stress among teachers of children whose home backgrounds varied in their levels of financial hardship. It was anticipated that reported stress would be higher in teachers of children from more deprived homes. (2) To examine the effect of age of children taught on perceived stress. It was expected that stress levels would be higher among teachers of younger children who made more interpersonal demands on their teachers. (3) To examine the relationship between reported stress and ill-health. The more stressed teachers were predicted to have more symptoms of illness.

Pratt (1978:3) reports that stress for teachers appeared to arise from five main sources: ". . . a general inability to cope with teaching problems, non co-operative children, aggressive children, concern for children's learning, and staff relationships." Financial deprivation of students was found to be positively and highly significantly related to the incidence of perceived stress among teachers of all but the very youngest children. Stress increased with age of children taught for those teachers of the more deprived. Finally, a positive association was found between amount of stress recorded and illness. Some 20 percent of the teachers sampled displayed symptoms of illness.

Kyriacou and Sutcliffe's Research

Perhaps the most extensive studies of teacher stress in Britain have been conducted by Kyriacou and Sutcliffe. In an early review of the research on sources and manifestations of teacher stress, Kyriacou and Sutcliffe (1977a:299) make some important observations. First, there are a number of factors that affect the extent to which demands made on a teacher result in teacher stress:

> (1) the degree of role conflict or role ambiguity involved, (2) the degree to which the teacher perceives that he is unable to meet the demands made upon him, (3) the degree to which the teacher's ability to meet the demands is impaired by poor working conditions, (4) the degree to which the demands are new or unfamiliar, and (5) the degree to which the teacher is already experiencing stress resulting from sources outside his role as a teacher.

Second, there is probably a close association between sources of job dissatisfaction and sources of teacher stress. Yet there are few studies of teacher dissatisfaction or teacher stress in which maintaining classroom discipline is identified as the most important source of dissatisfaction or stress. Believing that discipline may be more important than the studies would indicate, Kyriacou and Sutcliffe (1977a:301) advance three explanations:

> (1) that teachers distinguish between aspects of the job which are regarded as an integral part of the job (teaching children, maintaining discipline), and those aspects of the job which can be changed by administrative decisions (salary, large classes) . . .; (2) that ego-defensive processes lead to the under-reporting of dissatisfactions which imply personal failures or deficiencies; (3) that the contribution of maintaining classroom discipline to teacher stress may be subtle, for example maintaining classroom

> discipline may involve constant monitoring of the pupils behavior, and as such teachers may not be fully aware of its significance.

Whatever the explanation, it would appear that the relationship of student behavior to teacher stress requires further investigation.

The initial study by Kyriacou and Sutcliffe (1977b) was designed to determine the extent to which a sample of teachers in medium-sized (approximately 1,000 pupils) mixed comprehensive schools in England felt they were experiencing stress. Stress was measured by response to the question "In general, how stressful do you find being a teacher?" on a five-point scale coded 0-4 and labelled "not at all stressful", "mildly stressful", "moderately stressful", "very stressful", and "extremely stressful." The study also investigated the relationship between teacher stress and the biographical characteristics of sex, qualification, age, teaching experience and position held in the school. Of the 109 respondents, only 1.8 percent rated their response "not at all stressful," while 33 percent rated "mildly stressful," 35.8 percent rated "moderately stressful," 22.9 percent "very stressful" and 6.4 percent rated "extremely stressful." Over one quarter of the respondents reported that being a teacher is either very stressful or extremely stressful. However, there was little association between teacher stress (as measured) and the biographical characteristics. Kyriacou and Sutcliffe (1977b:79) speculate that personality characteristics may be more important than biographical characteristics in determining individual differences in teacher stress. It may also be that differences lie in teachers' perceptions of the sources rather than their ratings of the overall stress of the job.

In another study of 257 teachers in medium-sized mixed comprehensive schools, Kyriacou and Sutcliffe (1978b:159) sought the answers to four questions:

> (1) to what extent do teachers feel they are experiencing stress? (2) what do teachers feel are the main sources of stress? (3) what are the most frequent symptoms experienced? (4) are there differences in the answers to questions (1) to (3) for different biographical subgroups?

The same overall measure of stress as used in the previous study was used. In addition, respondents were asked to rate 51 items regarding sources of stress on a five-point scale (0-4) labelled "no stress", "mild stress", "moderate stress", "much stress", and "extreme stress." Finally, respondents were asked to rate how frequently during the school term (never, rarely, about once a week, about once a day, many times a day) they experienced 17 items regarding symptoms of stress. Approximately 20 percent of the respondents rated being a teacher as either very stressful or extremely stressful, the mean being 1.8, and again there was little association between overall stress and the biographical characteristics.

Of the 51 sources of stress, the 10 most stressful in order were: "pupil's poor attitudes to work", "trying to uphold/maintain values and standards", "poorly motivated pupils", "covering lessons for absent teachers", "too much work to do", "lack of time to spend with individual pupils", "individual pupils who continually misbehave", "pupils who show lack of interest", "not enough time to do the work", and "lack of time for marking." Kyriacou and Sutcliffe (1978b:166) point out that the rank ordering should be taken only as a crude guide as to the relative importance of the items since not all sources apply to all teachers. The study did not provide a frequency of occurrence measure for each of the items. Although there was little association between overall stress and teachers' biographical characteristics, Kyriacou and Sutcliffe (1978b:164) found that there were a number of biographical differences on perceptions of sources of stress:

> Female teachers appeared to find several items regarding pupil misbehavior greater sources of stress than their male colleagues, whereas the latter reported greater stress for administrative and paperwork. University graduates reported less stress than their colleagues on a mixture of items in the main to do with poor working conditions and poor school ethos. Younger and less experienced teachers differed from their colleagues on a range of items which included reporting greater stress on "punishing pupils", "difficult classes", "maintaining class discipline", "poor promotion opportunities", "lack of participation in decision-making", and "attitudes and behavior of the headmaster." Well over half the items were rated greater sources of stress by "teachers" as compared with "heads of departments", the only reversals being for administrative and paperwork.

Kyriacou and Sutcliffe (1978b:161) also subjected the 51 sources of stress to a factor analysis. Four factors accounting for 52 percent of the variance were labelled "pupil misbehavior", "poor working conditions", "time pressures", and "poor school ethos." Finally, the two symptoms of stress most frequently reported were exhaustion and frustration.

In another study of 218 teachers in medium-sized mixed comprehensive schools, Kyriacou and Sutcliffe (1979a) investigated the association between self-reported teacher stress and three response correlates: job satisfaction, absenteeism and intention to leave teaching. Kyriacou and Sutcliffe (1979a:89) report that self-reported teacher stress was negatively associated with job satisfaction and positively associated with intention to leave teaching. Of the 218 respondents, 23.4 percent rated teaching as either "very stressful" or "extremely stressful", the mean being 1.8, and 23.5 percent indicated they were likely to leave teaching within 10 years. The most frequently mentioned reasons for leaving for males were poor salary, poor promotion prospects and general dissatisfaction; for females the most frequent reason was having a baby. Finally, Kyriacou and Sutcliffe (1979a:96) report:

> . . . it appears that conditions of work rather than the experience of teaching (the work itself) may provide sources of stress which most strongly contribute to job satisfaction and intention to leave teaching.

The most recent study by Kyriacou and Sutcliffe (1979b) surveyed 130 teachers in medium-sized mixed comprehensive schools to determine if the personality dimension, locus of control, was correlated with self-reported teacher stress. Rotter's (1966) Internal-External (I-E) locus of control scale, a measure of the extent to which an individual has a generalized expectancy of external rather than internal control over reinforcement, was utilized. Kyriacou and Sutcliffe (1979b:227) report:

> Individuals who believe that reinforcement is contingent on their own behavior are said to have a belief in internal control; those who believe reinforcement is the result of luck, chance, fate, the action of powerful others or is essentially unpredictable, are said to have a belief in external control.

Kyriacou and Sutcliffe (1979b:227) hypothesized that teachers who have a generalized expectancy of external control would be more likely to appraise their environment as threatening and hence may experience greater stress. "It was thus predicted that a self-report measure of teacher stress would be positively associated with a belief in external control." The correlation was found to be positive and significant.

It should be noted that the Kyriacou and Sutcliffe studies in the aggregate tend to support the model of teacher stress described earlier in this chapter.

Two American studies have focused on the importance of role conflict and ambiguity: Tosi and Tosi utilizing a formulation similar to that of Kahn et al. and Schwab and Iwanicki relating conflict and ambiguity to teacher burn-out.

Tosi and Tosi's Research

Tosi and Tosi (1970) studied 68 elementary and secondary teachers who were enrolled in an introductory graduate course in guidance and counseling in the United States. Tosi and Tosi (1970:1068) hypothesized ". . . that role conflict and ambiguity would be negatively related to participation and job satisfaction, and positively related to job threat and anxiety as perceived by secondary and elementary teachers." For the purpose of their study, Tosi and Tosi operationally defined organization stress in terms of role conflict and role ambiguity, thus limiting considerably the sources of stress investigated. The results of the study were reported to indicate that role conflict was negatively correlated with satisfaction; job satisfaction was not significantly related to role ambiguity; job threat and anxiety were not significantly related to role conflict or role ambiguity; and participation was negatively related to both role conflict and ambiguity. Hamner and Tosi (1973) have advanced the hypothesis that the organizational level of the focal person moderates the relationship between perceptions of role conflict and role ambiguity and measures of job involvement and job satisfaction. They argue that role conflict may be more important than role ambiguity as a predictor of job satisfaction for persons occupying low-level, nonsupervisory roles (such as the teachers in the Tosi and Tosi (1970) study) and that the converse is true for persons occupying higher-level supervisory roles. One fallacy of this argument may be the assumption that teachers operate in "nonsupervisory roles."

Schwab and Iwanicki's Research

In a more recent study of 507 Massachusetts teachers, Schwab and Iwanicki (1981:10) report that ". . . the organizational stress variables of role conflict and role ambiguity each explained a significant amount of variance in the emotional exhaustion and depersonalization subscales of the Maslach Burn-out Inventory." Role conflict accounted for most of the variance in frequency and intensity on the emotional exhaustion subscale (20 percent and 23 percent) and on the depersonalization subscale (8 percent and 9 percent), whereas role ambiguity accounted for all of the variance in frequency and intensity on the personal accomplishment subscale (6 percent and 3 percent). Schwab and Iwanicki (1981:16) conclude that the large difference in variance across the subscales supports examining each individually. "An in-depth examination may indicate that feelings of emotional exhaustion, depersonalization and personal accomplishment are affected differently by situational and personal variables." Schwab and Iwanicki (1981:17-18) further conclude:

> Unfortunately many organizations have launched programs to combat burn-out without understanding what burn-out is, why it exists, or even who it is affecting. Though the term "burn-out" has a trendy connotation, the feelings teachers are expressing are not. In order to reduce the problems leading to these feelings, we must first isolate the sources . . . . Before we attempt to solve the problem, we must first understand the problem better.

A number of American studies have adopted an inventory approach to identifying sources of stress.

New York State United Teachers' Survey

In a survey of a sample of its membership, the New York State United Teachers (1979) asked teachers to indicate on a scale of 1 to 5 (1 indicating the lowest stress and 5 indicating the highest stress) the relative degree of stress caused by each of 47 events. Ten items had means for stress at or above the theoretical mean of 3.0. In order, these were "managing disruptive children", "incompetent administrators - lack of administrative support", "maintaining control when angry", "overcrowded classroom", "first week of school", "disagreeing with supervisor", "dealing with community racial issues", "preparing for a strike", "target of verbal abuse by student", and "theft and destruction of teacher property." How frequently these events occur was not reported so there is a chance that teachers may have responded on the basis of projection; that is, how much stress would I be under if my property were stolen and destroyed?

The survey (1979:3) reports that urban elementary and high school teachers indicate higher stress than their rural or suburban counterparts, that the 31-40 age group appears to be under the greatest stress, and that teachers in schools with large enrolments report more stress than teachers in schools with small enrolments. Finally, in response to whether they experienced any illnesses related to the stress they felt in the classroom, 41 percent of the teachers indicated symptoms.

Cichon and Koff's Research

Cichon and Koff (1980) replicated the procedure used by Holmes and Rahe in developing the Social Readjustment Rating Scale to create the "Teaching Events Stress Inventory." They assigned an arbitrary stress value of 500 to "the first week of school", an event shared by all teachers. Respondents were requested to rate 35 other items in relation to the base line indicator of stress. The questionnaire was published in a monthly newsletter that was distributed to 22,448 members of the Chicago Teachers' Union. Cichon and Koff (1980:93) report that 4,934 returns were usable for data analysis and caution that sample selectivity may be an important methodological issue. For example, blacks were under-represented in the sample.

Twelve events were rated higher in stress than the base line indicator. In rank order they were: "involuntarily transferred", "managing disruptive children", "notification of unsatisfactory performance", "threatened with personal injury", "overcrowded classroom", "lack of availability of books and supplies", "colleague assaulted in school", "reorganization of classes or program", "implementing board of education curriculum goals", "denial of promotion or advancement", "target of verbal abuse by student", and "disagreement with supervisor." Cichon and Koff (1980:97) report that there were no significant differences between the subgroups compared in the study. With regard to manifestations of stress, Cichon and Koff (1980:95) state:

> More than half the respondents (56 percent) said they experienced physical illness related to their work. About one-quarter of the teachers indicated they experienced mental illness they felt was related to their employment. It is interesting to note, however, only about 15 percent of the teachers indicate they missed six or more days of work a year due to illness.

In a subsequent study of suburban teachers, Laffey, Cichon, Koff and Olson (1979) found substantial differences in perceptions between urban teachers and their suburban counterparts. In addition, this research group has developed an Administrative Events Inventory.

Tacoma School District's Research

Young (1980) reports the efforts of a joint committee at gathering data on stress, illness related to stress, and violence in the Tacoma, Washington, Public Schools. Data on teacher stress were gathered using a modified form of the Chicago Teaching Events Stress Inventory developed by Cichon and Koff. For the 747 respondents, "managing disruptive children" was the most frequently occurring of 45 events, with 75 percent of the teachers reporting that they had experienced it during the school year. This was followed by "talking to parents about their child's problems", 72 percent and "evaluating student performance", 70 percent. The five most stressful events were "involuntarily transferred", "notification of unsatisfactory performance", "colleague assaulted in school", "managing disruptive children", and disagreement with supervisor." This is one of the few studies that has employed a frequency measure. Young (1980:39) comments that "Fortunately, the most stressful events were not the most frequently occurring."

Young (1980:39) reports that data gathered on stress-related illness as it related to absence proved interesting.

> A negative correlation was found between the number of days absent and the reporting of stress. Teachers who indicated that they suffered from exhaustion or anxiety due to stress had fewer absences than those who indicated no stress-related problems. Further analysis of the apparent paradox revealed that many

> teachers who suffered from stress experienced feelings of guilt of their condition. They strived to keep up appearances by coming to work regularly and pretending that nothing was wrong. The resulting effect was that the quality and productiveness of their work declined dramatically.

From this and other studies it would appear that teacher absence is not a very reliable indicator of teacher stress.

Feitler and Tokar's Research

Feitler and Tokar (1981) claim that they partially replicated the 1979a Kyriacou and Sutcliffe study. Their sample included responses from 3,789 teachers in northeastern Ohio and western Pennsylvania. Job-related stress, as obtained from a single measure, was reported to be highest for respondents in urban high schools, between the ages of 31 and 44, and with over 10 years of service. Respondents reporting the lowest degree of job-related stress were those in rural elementary schools, under 30 years of age, and with 0-4 years of service. Of the total sample, 16.5 percent reported that their job environment was either "very stressful" or "extremely stressful." In answer to a single question, "As an individual, how stressful do you feel your life is?", 16.9 percent reported their lives were either "very stressful" or "extremely stressful." Again, respondents reporting the highest degree of general stress were those in urban high schools, in the age range of 31-44, with over 10 years of service. Feitler and Tokar (1981:12) also asked respondents to rank seven factors that were most likely to put them under stress: "students" (30.9 percent), "myself" (20.6 percent), "supervisors" (15.7 percent), "parents of students" (9.3 percent), "my family" (7.8 percent), "colleagues" (4.7 percent), and "other" (4.5 percent).

Respondents were also requested to check if eight possible sources of stress applied to them personally. The rank order for the respondents for the eight sources of stress was as follows: "individual pupils who continually misbehave", 57.1 percent; "too much work", 52.3 percent; "trying to uphold/maintain values and standards", 48.3 percent; "noisy pupils", 45.8 percent; "difficult class", 34.9 percent; "inadequate salary", 30.3 percent; "inadequate disciplinary policy of school", 26.1 percent; and "little chance for advancement", 18.8 percent. Feitler and Tokar (1981:21) conclude that the level of perceived stress for teachers in the study was not unusually high compared to the Kyriacou and Sutcliffe study and other U.S. studies. However, the mean value of 2.69 was noticeably higher than that of the British study, 1.84. This conclusion should be interpreted with caution since Feitler and Tokar used a 1-5 scale for their measure of overall stress while Kyriacou and Sutcliffe have consistently used a 0-4 scale for their overall stress measure. Feitler and Tokar (1981:20) also conclude that the similarity in means between general stress and job-related stress indicates that teachers cannot distinguish the difference using the single-measurement items employed in the study. This requires further checking. Finally, Feitler and Tokar (1981:20) state:

> The literature on stress suggests that a high stress event of short duration may be of considerably less import than a moderate stressor that endures over an extended period of time. A teacher may say the first day of school is very stressful, for example. But it only lasts one day. A study hall, on the other hand, might be rated as a moderately low source of stress, yet because it endures over the school year be debilitating over time. There is a need to determine if an event rated as a high stressor endures or not, and how this affects perceived stress.

This notion lends support for the design of the present study where both frequency of occurrence and stressfulness were examined.

Provincial Association of Protestant Teachers' Study

A study sponsored by the Provincial Association of Protestant Teachers of Quebec and conducted by the firm of Pierre Dubois and Associates was the only Canadian study of teacher stress found in the literature. MacRae (1979) reports that the study was based on the conceptualization that views stress as:

> . . . a reaction to the nonfunctional pressure of harmful factors in the physical, social, emotional and organizational environment of work. Stress in this sense does not include the creative aspects of pressure or challenge which are positive stimuli in life.

MacRae (1979) reports that for elementary teachers, the three most important factors linked to stress were actual assignment (the teacher's attitude towards workload and timetable etc. as well as the actual subject taught); monotony at work (the extent to which teachers perceive their work as too easy, boring or routine, or the extent to which they feel their work does not challenge their full capabilities); and pressure from students (resulting from the fact that teachers feel that their students lack interest in and motivation for their studies, as well as from the pressure of discipline problems.) Pressure from parents (the extent to which teachers feel a lack of support and comprehension or even hostility and interference from parents); task ambiguity (lack of precision in work procedures, administrative and operation directives and in the evaluation of teacher productivity); and dissatisfaction with professional support received from the school board for psychological and pedagogical problems were also important stressors.

For secondary teachers, the most important factors linked to stress were the nature of work (the extent of teachers' satisfaction with the possibility that their work offers for them to use their abilities); monotony at work; work overload (a feeling that the work is too heavy or there is insufficient time to carry out duties); pressure from parents; and pressure from students.

With regard to symptoms of work-related stress, MacRae (1979) reports that elementary teachers most frequently mentioned generalized dissatisfaction followed by work-related tension. Secondary teachers expressed generalized dissatisfaction (53 percent), work-related tension (54.4 percent), periods of emotional instability (44 percent), and periods of depression (28 percent.) MacRae (1979) concludes:

> It should be understood that it is not necessary to produce study results which show that a vast majority of teachers are collapsing under job strain, before realizing that we have a problem which requires serious consideration. Were this the case, our schools would be uninhabitable. It is of concern, however, if while most teachers are satisfied, 10 or 15 or 20 percent of our members are feeling serious dissatisfaction to such an extent that they experience symptoms of physical and emotional stress.

Comparisons of this study with others already reviewed are difficult because of the substantial differences in methodology.

Jankovic's Research

Although Jankovic (1981) confined his study to investigating the prevalence and sources of stress of 238 Australian high school principals, the study is reviewed here because of the similarity in methodology between it and the present study. Adopting the Kyriacou and Sutcliffe (1978a) model, Jankovic (1981) investigated biographical and demographical differences in perceived stress and principals' perceptions of the stressfulness of 50 work-related sources of stress. In addition, Jankovic (1981) designed a measure of total annual stress.

For the overall measure of work-related stress, Jankovic (1981:91) used a five point scale (scored 1-5) and labelled "not stressful", "mildly stressful", "moderately stressful", "very stressful", and "extremely stressful." Jankovic (1981:93) reports that almost one-third (30.4 percent) rated the role of principal either as "very stressful" (26.6 percent) or "extremely stressful" (3.8 percent), the mean score for stressfulness being 3.17. The only significant correlation between overall work-related stress and biographical or demographical characteristics was for age. Jankovic (1981:96) reports a positive correlation between age of principals and self-reported principal stress.

Jankovic (1981:107) used a five-point scale (scored 0-4) for principals to rate the stressfulness of 50 work-related events. For the total group, 14 of the events had mean ratings in excess of the theoretical mean of 2. Jankovic (1981:117) reports the top five events in rank order as: "declaring teachers in excess", "confronting an unsatisfactory teacher", "having to reprimand teachers", "tolerating a poor or incompetent teacher", and "conflicting demands from teachers and the Education Department." When the 50 work-related events were subjected to factor analysis, Jankovic (1981:120) reports that 11 factors emerged.

When total annual stressfulness was computed, Jankovic (1981:139) found that a number of the more stressful events such as "declaring teachers in excess" contributed less to the total annual stress score because they do not occur with any regularity. Jankovic (1981:137) reports the five top events for total annual stress as:

"interruptions (e.g. telephone)", "conflicting time demands of work and family", "tolerating a poor or incompetent teacher", "administrative duties overriding educational leader role", and "insufficient time for educational reading."

Jankovic (1981:145) examined correlations between the self-report general measure of stress and stress on the 50 events and between the general measure and total annual stress on the 50 events.

> Both measures, for all items, correlated significantly and positively with the self-report measure of Principal stress. However, . . . the "stressfulness" measure correlated highly significantly . . . more often than did the "annual stress experience" measure.

Jankovic (1981:148) concludes that this aspect of his study requires further research attention. The similarity in design between the Jankovic study and the present study is remarkable given that they were generated in isolation.

SYNTHESIS OF RELATIONSHIPS AMONG VARIABLES

As mentioned earlier, the conceptual framework adopted for the study was that of Kyriacou and Sutcliffe (1978a) which was presented in Figure 5. However, only a limited number of the possible variables and relationships are to be explored in the present study. Figure 7 provides a diagrammatic representation of the variables and relationships to be investigated. These may be summarized as follows:

1. Overall Work-related Stress

This was assessed in the following ways:

(a) the extent to which teachers are experiencing overall work-related stress; and

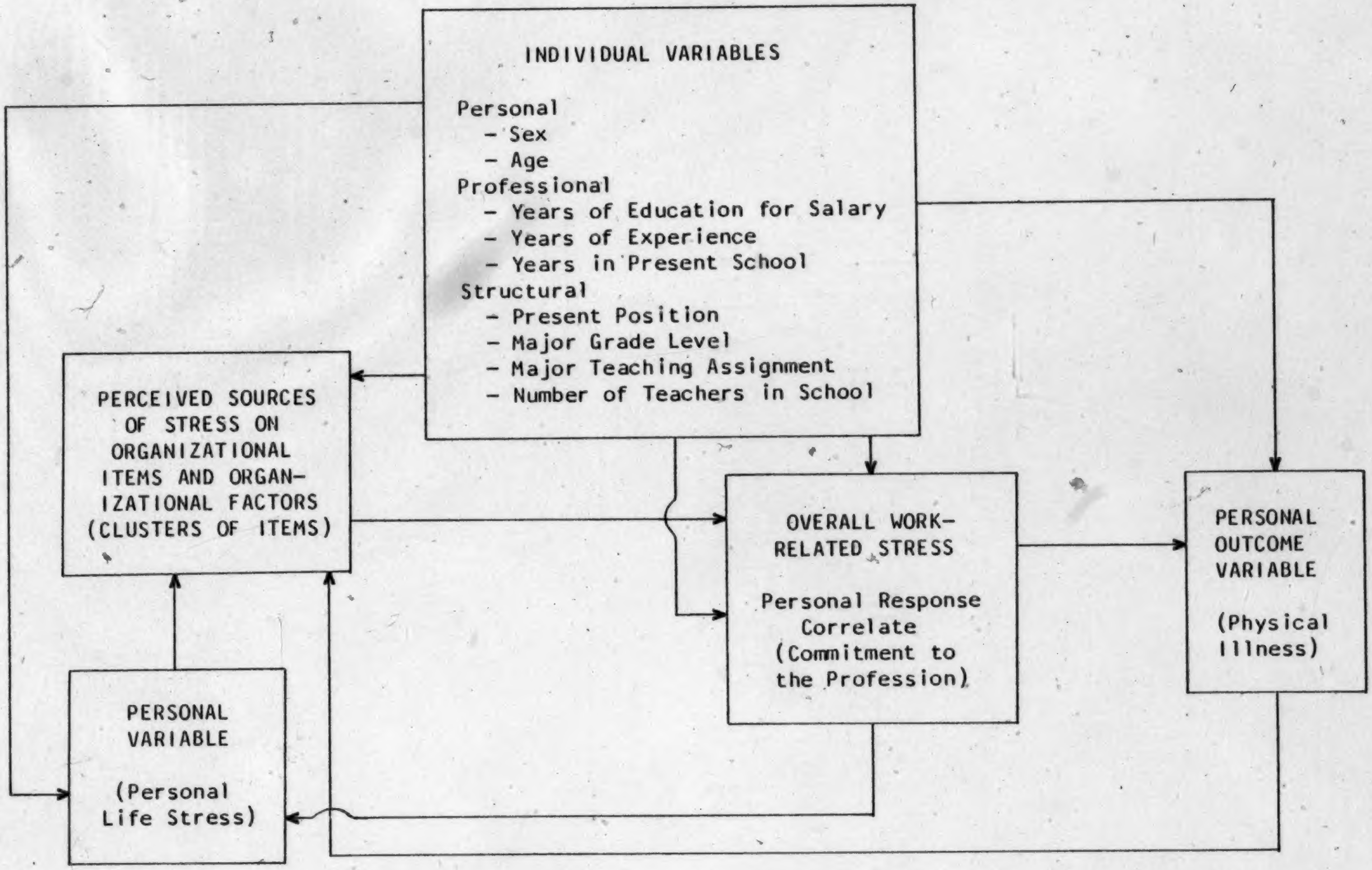

INDIVIDUAL VARIABLES
Personal
- Sex
- Age
Professional
- Years of Education for Salary
- Years of Experience
- Years in Present School
Structural
- Present Position
- Major Grade Level
- Major Teaching Assignment
- Number of Teachers in School
PERCEIVED SOURCES OF STRESS ON ORGANIZATIONAL ITEMS AND ORGANIZATIONAL FACTORS (CLUSTERS OF ITEMS)
OVERALL WORK-RELATED STRESS
Personal Response Correlate (Commitment to the Profession)
PERSONAL OUTCOME VARIABLE
(Physical Illness)
PERSONAL VARIABLE
(Personal Life Stress)

Figure 7. Diagrammatic representation of relationships investigated.

(b) the relationship of overall work-related stress to the individual variables, to the personal outcome variable (physical illness), to the personal variable (personal life stress), and to the personal response correlate (commitment to the profession.)

2. Perceived Sources of Stress

These were assessed in terms of:

(a) the extent to which teachers view specific organizational items as sources of stress;

(b) the extent to which stress on the organizational items is associated with overall work-related stress; and

(c) the extent to which organizational factors are associated with the individual variables, with the personal outcome variable (physical illness), with the personal variable (personal life stress), and with the personal response correlate (commitment to the profession.)

3. Additional Analyses

In addition the study examined the relationship between the individual variables and the following:

(a) the personal outcome variable (physical illness),

(b) the personal variable (personal life stress), and

(c) the personal response correlate (commitment to the profession.)

The direction of the arrows in Figure 7 can only be inferred since the study was not designed to establish causality.

SUMMARY

This chapter has provided a review of the literature related to the central concepts of the study including the nature of stress, stress and behavior in organizations, organizational sources of stress, and teachers and stress. A framework for viewing the relationships explored in the study was also presented.

First, the physiological aspect of stress was discussed, the effects of stress being cumulative over time. Stressors, or events that cause stress, may be physical or psychological. Some stressors may be controllable while others are not. However, the total amount of stress that an individual experiences is a product of both kinds of experiences. Since individuals have a limited capacity for stress, they may become candidates for the onset of illness and disease if the total stress they experience exceeds their capacity. Others may become candidates for what has been termed as burn-out.

Second, stress and behavior in organizations was discussed. If a situation is perceived by an individual as having stress in it, it will become a stressor for the individual. Several models of stress were discussed and the model of teacher stress adopted for this study was presented. Also, six potential sources of stress in organizations were identified. These included: task-based stress, role-based stress, stress intrinsic to the behavior setting, stress arising from the physical environment itself, stress arising from the social environment, and stress within the person himself.

Third, a review of the literature related to organizational sources of stress was presented. Many studies have explored role conflict and role ambiguity as general sources of stress. Others have attempted to determine moderators in the relationship between role conflict and role ambiguity and selected outcome variables. However, focusing on specific role requirements and aspects of the job may prove more fruitful in isolating sources of stress for various occupational groups.

Fourth, the literature on teacher stress was reviewed. Several British studies, several American studies, one Canadian study and one Australian study were included. Results are mixed and comparisons are difficult partly because of a wide variety of methodological and sampling differences. In general, however, the results appear to indicate that teachers are experiencing moderately high degrees of work-related stress.

Finally, a framework depicting the relationships among the variables that are explored in this study was presented. This provided a diagrammatic representation of the relationships identified in the Problem Statements in Chapter 1.

CHAPTER 3

RESEARCH DESIGN

The research methodology used for the study is reported in this chapter. The contents have been organized under the following headings: the research instrument, pilot testing, validity and reliability of the instrument, data collection procedures, statistical treatment of the data and content analysis of open-ended responses.

THE RESEARCH INSTRUMENT

The research methodology used for this study was survey, in that the major focus was to describe existing phenomena. The questionnaire approach was chosen as the instrument for data collection. An advantage of this method is that data may be collected from a large, diverse population while preserving the anonymity of the respondents. Kerlinger (1973:422) has observed that "survey research is probably best adapted to obtaining personal and social facts, beliefs, and attitudes." In questionnaires, respondents often feel freer to express views of which others may disapprove, or which may cause them trouble. A major part of the study was development of the questionnaire, entitled Organizational Stress Questionnaire, a copy of which is contained in Appendix A.

Initial Development of Items

Since a comprehensive questionnaire adaptable to the educational setting could not be located when the study was begun, the first version of the questionnaire was based on the review of the literature pertaining mainly to other occupations. It consisted of a number of scales that had been validated in other studies (Lyons, 1971; Schuler et al., 1977, Hackman and Lawler, 1971; Zaleznik et al., 1977; Rizzo et al., 1970; Friedman and Rosenman, 1974; Kahn et al., 1964).

Permission was obtained to pilot-test the questionnaire during May, 1978. Six principals from the Sturgeon School Division and six principals from the County of Strathcona took part in the pilot study. In addition to completing the questionnaire items, each person was interviewed and requested to comment on item wording and suitability. As a result of an analysis of the data and the comments of the principals some major revisions seemed warranted. Although they had no difficulty in completing the items, the principals were of the general consensus that many of the items lacked the specificity necessary to identify sources of stress in the school environment.

To gain item specificity and comprehensiveness, the researcher conducted eleven half-day workshops involving 559 teachers. Three of the workshops, involving 137 teachers, took place in the district that was used in this study. Bouchard (1976:380) suggests that "the most efficient and most productive way to formulate effective questions, as well as set a positive framework for the research, is to involve at least some of the respondents in the construction of the questionnaire." As part of the workshop activity, teachers in groups of four to eight were requested to identify sources of stress in their work. The items thus generated were then collated and compared with items identified in the literature. Several additions relating to organizational roles (Rizzo et al., 1970; Miles and Perreault, 1977) were made to the list. The resulting 147 items were then checked for wording and over-lap by three teachers with a view to reducing the number of items so that the questionnaire would be of a manageable length. These three teachers did not form part of the final sample.

Part A: Personal-Educational Data

Part A contained questions regarding various individual characteristics of the teachers:

Personal:	sex, age;
Professional:	years of education for salary purposes, years of teaching experience, years in present school;
Structural:	present position, major grade level, major teaching assignment, number of teachers in school.

Part B: Sources of Organizational Stress

Of the 147 items gathered from teacher workshops and the review of the literature, the researcher, with the assistance of three teachers, selected 67 items that appeared to be representative of the major areas of concern. These organizational items were randomly ordered in an attempt to overcome what Bouchard (1976:382) terms "an order effect."

Respondents were requested to answer two questions with regard to each organizational item: "How often does this situation occur in your work?" and "How stressful is the situation for you in your work?" A five-point scale which ranged from Never to Almost Constantly was used to rate the frequency of occurrence of the organizational item. To determine how stressful the item was, a five-point scale ranging from No Stress to Very Much Stress was used. Both the Never category and the No Stress category were assigned a value of 1 rather than 0 to accommodate the multiplication factor required for the measure of organizational stress (frequency x stress), and to enable some comparisons with other studies in which the same five point scale was used for the stress measure.

Part C: General

Overall work-related stress was assessed by one item: "On the average, how stressful do you find your work?" and a five-point rating scale which ranged from No Stress to Very Much Stress was used.

Three personal variables were also included in Part C of the questionnaire: "During the past two years, have you experienced any physical illness that you feel is related to stress in your work?", "During the past two years, have you experienced a number of stressful situations in your personal life?" and "Do you plan to pursue a career in education until your normal retirement age?" A simple Yes or No response was required.

Finally, respondents were asked to give their reasons if they were planning to leave the profession and to elaborate if there were any major sources of stress in their work that they had been unable to identify by completing the questionnaire items.

PILOT TESTING

The questionnaire items were completed by 32 teachers who were attending a stress workshop held at a professional development day in a rural school jurisdiction. In addition, the teachers were asked to write comments about their reactions to the content, the length, the wording of the items and the appropriateness of the scaling system. As a result of these comments, amendments were made to the wording of five items.

The questionnaire was also submitted for critical review to three faculty members of the Department of Educational Administration, The University of Alberta and to three staff members of The Alberta Teachers' Association. This resulted in some changes in format and the addition of the question regarding personal life stress.

RELIABILITY AND VALIDITY

Reliability is concerned with the consistency of data produced by repeated applications. When writing about the reliability of questionnaires, Hill and Kerber (1967:64) state:

> The reliability of the questionnaire depends upon the length of the instrument, the subject, the wording of items, the format, and how the instrument motivates the respondent. Pilot studies, trial runs, and precautionary methods of construction based upon factors affecting questionnaire reliability are courses of action available to the researcher who wishes to construct a reliable questionnaire.

The questionnaire was appraised by teachers who participated in the pilot study, by selected experts and the researcher to ensure that items and instructions for completion were clear and unambiguous and that respondents' motivation would be positive.

With regard to validity, on the other hand, Hill and Kerber (1967:65) state that "the validity of a data-gathering instrument depends upon how effectively the instrument measures what it purports to measure." One method used in this study to increase validity was to gather the organization items that were identified as sources of stress directly from the teachers. Content validity or the representativeness of the content was assessed by teachers who took part in the pilot study and by selected experts. With respect to internal consistency, Kerlinger (1973:468) claims that "factor analysis is perhaps the most powerful method of construct validation." The results of the factor analysis performed on the 67 items in the Sources of Organizational Stress part of the questionnaire are reported in Chapter 6.

DATA COLLECTION PROCEDURES

Distribution of Questionnaires

Permission was received from the superintendent and the Board of Trustees of the Edmonton Catholic School District to conduct the study and to distribute and collect the questionnaires through central mailing services. This was a special dispensation since the questionnaires were to be distributed well beyond the normal cut-off date usually allowed by the system. To assist with distribution the Edmonton Separate School Local of The Alberta Teachers' Association provided large envelopes addressed to each school. Some 1,448 questionnaires, each with an attached return envelope addressed to the researcher, were placed in the large envelopes and delivered to each school in the district during the first week of June, 1980. Principals were requested to distribute the questionnaires to all teachers who, in turn, were requested to complete the questionnaire, place it in the envelope, seal and give the envelope to the principal, if possible within one week. Through a memo in his weekly bulletin, the superintendent of schools encouraged teachers to respond. In addition, each teacher received a letter attached to the questionnaire from the president of the Edmonton Separate School Local of The Alberta Teachers' Association encouraging participation in the study. A copy of the letter is contained in Appendix A. Once the questionnaires were completed, the principals returned them through central mailing services. Most were received by the researcher in that fashion. Fifteen respondents chose to put a stamp on their envelope and return it via regular mail service.

Returns from Respondents

There were 1,014 returns of a possible 1,448 for a return rate of 70 percent. Of the 1,014 returns, 5 were received too late to be included in the data analysis. Another 52 were deleted because they were incomplete in Part A or Part C, leaving 957 usable returns, a usable return rate of 66 percent. This represented an extremely good return. Travers (1964:297) indicates:

> A questionnaire of some interest to the recipient may be expected to show only a 20 percent return, even when conditions are favorable. If nonrespondents are contacted a second or third time, the return may be increased to 30 percent. Only rarely does it reach the 40 percent level.

The 66 percent of usable returns therefore constituted a large sample. The extent to which the sample was representative of the population is illustrated in Table 1. Because the sample closely replicated the population, inferential statistics were appropriate.

STATISTICAL TREATMENT OF THE DATA

All statistical analyses were done utilizing Statistical

Table 1

Frequency and Percentage Frequency Distributions of the Sample Relative to the Population on Selected Individual Variables

Individual Variable	Population		Sample		Percent Difference
	f	%	f	%	
Sex					
Males	609	42.1	384	40.2	- 1.9
Females	839	57.9	571	59.8	+ 1.9
Administrative Designation	163	11.3	135	14.1	+ 2.8
Major Grade Level					
ECS/Elementary	757	52.3	495	51.8	- 0.5
Junior High	371	25.6	252	26.4	+ 0.8
Senior High	320	22.1	208	21.8	- 0.3
Number of Teachers in School					
0-10	185	12.8	160	16.8	+ 4.0
11-20	540	37.3	344	36.1	- 1.2
21-30	290	20.0	186	19.5	- 0.5
31-40	175	12.1	118	12.4	+ 0.3
41 +	258	17.8	145	15.2	- 2.4

Package for the Social Sciences, Version H. Statistical techniques used to analyze the data included frequency distributions, t Tests, One-Way Analysis of Variance, Stepwise Multiple Regression, Factor Analysis, Factor Scores, and the Chi Square Test of Significance followed by the calculation of the Phi Coefficient or Contingency Coefficient. All programs were available through The University of Alberta, Department of Computing Services.

Frequency and percentage frequency responses were calculated for each item in the questionnaire. The t Test was used to determine differences in overall work-related stress associated with selected individual variables. Similarly, One-Way Analysis of Variance was used for those individual variables that could be considered continuous and for analysis of the factor scores. A minimum significance level of .05 was established for the various analyses. When the one-way analysis of variance produced an F which was statistically significant beyond the .05 level, the Scheffé procedure was used to compare individual groups in an attempt to locate the differences which contributed to the ANOVA results. Because the Scheffé test is a conservative one (Hill and Kerber, 1967:372), the significance level was set at .10.

Stepwise multiple regression analysis was applied to the data to determine which of the predictor variables, that is, the 67 organizational items in Part B of the questionnaire, were associated with the greatest percentage of variance in overall work-related stress. Organizational stress scores for each of the 67 organizational items were obtained by multiplying frequency of occurrence by stress occasioned. The resulting measures were then subjected to Factor

Analysis. Kerlinger (1973:659) states: "Factor analysis is a method for determining the number and nature of the underlying variables among larger numbers of measures." Factor scores (or measures of individuals on the factors) were then computed to enable comparisons with individual variables and with the measure of overall work-related stress.

Rank order of organizational items according to stress reported by the total group was calculated by the researcher using means obtained from a factor analysis of the stress scores. Rank order of organizational items according to organizational stress (frequency x stress) was calculated using means obtained from a factor analysis of the multiplied scores. Rank order of organizational items according to the stress reported by individuals to whom they occur frequently or almost constantly was calculated using a frequency distribution which included only those respondents in computing the stress mean.

The chi square statistic was used to determine whether a systematic relationship existed between selected individual variables and three of the personal variables: physical illness, personal life stress, and commitment to the profession. The chi square statistic was obtained from SPSS Subprogram Crosstabs. Nie et al. (1975:224) state:

> We interpret small values of chi-square to indicate the absence of a relationship, often referred to as statistical independence. Conversely, a large chi-square implies that a systematic relationship of some sort exists between the variables.

The association between the variables was assessed by the Phi Coefficient or the Contingency Coefficient, the Phi Coefficient being suitable for a 2 x 2 table and the Contingency Coefficient for a table of any size.

CONTENT ANALYSIS OF OPEN-ENDED RESPONSES

In Part C of the questionnaire, respondents were asked to give reasons if they did not plan to pursue a career in education until their normal retirement age. They were also asked to elaborate if there were any major sources of stress in their work that they had been unable to identify by completing the questionnaire items. The unit of content analysis was the statements provided by the respondents. Kerlinger (1973:528) suggests that one method for categorizing responses is according to theme. It was deemed the most useful method for this study.

Commitment to the Profession

On initially perusing the data generated by the respondents, the researcher made a list of recurring themes. A second analysis done two months later resulted in categorization of the responses indicating reasons for leaving the profession under the following:

Too much stress
Early retirement
Career change
Lack of rewards, incentive
To raise a family
Lack of job security
Student behavior
Need for breaks, renewal
Work overload
General

A third analysis done five weeks later confirmed the categorization although some responses were very comprehensive and could have been included under several themes.

The responses of those who were undecided about pursuing a career in education until normal retirement age were similarly analyzed. The themes were as follows:

Stress
Family commitments
Future in education
Alternatives

Finally, the qualifications placed on their responses by those who planned to pursue a career in education until their normal retirement were analyzed using the following themes:

Finances
Classroom teaching
Working conditions
Alternatives
Family commitments
Love of work

Sources of Stress Identified by Teachers

The themes utilized for the initial categorization of sources of stress personally identified by the teachers in the study were those that emerged from the factor analysis of the 67 organizational items: relationships with colleagues, teaching tasks, work load, relationships with students and job security. To accommodate the diversity of responses, an "other" category was added. It included: lack of rewards, societal expectations and attitudes, professionalism, comments regarding the questionnaire, and general comments about stress.

SUMMARY

Data were collected using the Organizational Stress Questionnaire designed for the study. It measured both overall work-related stress and stress associated with selected organizational items. The questionnaire was pilot tested by 32 teachers and critically reviewed by selected experts before being distributed to 1,448 school-based teachers in the Edmonton Catholic School District. Anonymity of respondents was assured. Returns were received from 1,014 teachers, of which 957 (66 percent) were usable for data analysis.

Data obtained from the questionnaire were analyzed using seven major statistical techniques: frequency distributions, t Tests, One-Way Analysis of Variance, Stepwise Multiple Regression, Factor Analysis, Factor Scores, and the Chi Square Test of Significance followed by the calculation of the Phi Coefficient or Contingency Coefficient. In addition, rank orders of the organizational items were calculated using means derived from three different analyses. Finally, open-ended responses were content-analyzed and classified according to recurring themes.

CHAPTER 4

PROFILE OF RESPONDENTS

The frequency and percentage frequency of respondents on the individual variables are presented in this chapter. The individual variables were classified into three sections: personal characteristics, professional characteristics, and structural characteristics.

PERSONAL CHARACTERISTICS

The frequency and percentage frequency of the personal characteristics of sex and age are reported in Table 2 and physical illness, and personal life stress are reported in Table 3. For all tables, there is a variable N because of missing data.

Sex

The ratio of females to males was approximately 6 to 4. Of the respondents, 384 or 40.2 percent were males, and 571 or 59.8 percent were females.

Age

More than 65 percent of the respondents were under the age of 40 years. Fifty-one or 5.4 percent were 20-24 years; 192 or 20.2 percent were 25-29 years; 222 or 23.3 percent were 30-34 years; 156 or 16.4 percent were 35-39 years; 132 or 13.9 percent were 40-44 years; 78 or 8.2 percent were 45-49 years; 55 or 5.8 percent were 50-54 years; and 65 or 6.8 percent were 55 or over. Because of numbers for

Table 2

Frequency and Percentage Frequency Distribution of Sex and Age of Respondents

Characteristic	f	%
Sex (N=955)		
Male	384	40.2
Female	571	59.8
Age (N=951)		
20-24	51	5.4
25-29	192	20.2
30-34	222	23.3
35-39	156	16.4
40-44	132	13.9
45-49	78	8.2
50-54	55	5.8
55 or over	65	6.8

Table 3

Frequency and Percentage Frequency Distribution of Respondents Regarding Work-Related Physical Illness and Personal-Life Stress

Characteristic	f	%
Work-Related Physical Illness (N=951)		
Yes	344	36.2
No	607	63.8
Personal-Life Stress (N=949)		
Yes	488	51.4
No	461	48.6

* Responses reflect work-related physical illness and personal-life stress experienced during the past two years.

comparison purposes the 55-59 and 60 or over categories on the questionnaire were combined.

Work-Related Physical Illness

Three hundred and forty-four or 36.2 percent of the respondents reported that during the past two years they had experienced physical illness that they felt was related to stress in their work.

Personal Life Stress

More than half of the respondents, 488 or 51.4 percent, indicated that they had experienced a number of stressful situations in their personal lives during the past two years.

Commitment to the Profession

Table 4 contains data related to commitment to the profession. When asked if they planned to pursue a career in education until their normal retirement age, 558 or 58.4 percent replied "yes," 79 or 8.3 percent indicated that they were "undecided," and 318 or 33.3 percent replied "no." A number (26) of the "yes" responses were qualified. The "undecided" category was created by the respondents.

PROFESSIONAL CHARACTERISTICS

The frequency and percentage frequency of the professional characteristics of years of education for salary purposes, years of experience and years in present school are reported in Table 5.

Years of Education for Salary Purposes

Over 90 percent of the respondents had 4 or more years of education for salary purposes. Twenty-six or 2.7 percent reported

Table 4

Frequency and Percentage Frequency Distribution of Respondents Regarding Commitment to the Profession

Characteristic	f	%
Commitment to the Profession (N=955)		
Yes	558	58.4
Undecided	79	8.3
No	318	33.3

Table 5

Frequency and Percentage Frequency Distribution of Respondents Classified by Years of Education for Salary Purposes, Years of Teaching Experience and Years in Present School

Characteristic	f	%
Years of Education (N=954)		
One	26	2.7
Two	32	3.4
Three	25	2.6
Four	515	54.0
Five	203	21.3
Six	153	16.0
Years of Teaching Experience (N=954)		
1	50	5.2
2	35	3.7
3-5	144	15.1
6-10	245	25.7
11-15	218	22.9
16-20	124	13.0
21 or more	138	14.5
Years in Present School (N=953)		
1	214	22.5
2	148	15.5
3-5	275	28.9
6-10	187	19.6
11 or more	129	13.5

having 1 year; 32 or 3.4 percent reported having 2 years; 25 or 2.6 percent reported having 3 years; 515 or 54 percent reported having 4 years; 203 or 21.3 percent reported having 5 years; and 153 or 16 percent reported having 6 years.

Years of Teaching Experience

Approximately 50 percent of the respondents had 10 or fewer years of teaching experience. Fifty or 5.2 percent reported 1 year; 35 or 3.7 percent reported 2 years; 144 or 15.1 percent reported 3 to 5 years; 245 or 25.7 percent reported 6 to 10 years; 218 or 22.9 percent reported 11 to 15 years; 124 or 13 percent reported 16 to 20 years; and 138 or 14.5 percent reported 21 or more years. For purpose of analysis the 21-25 and 26 or more years categories on the questionnaire were combined.

Years in Present School

More than 65 percent of the respondents had been in their present school 5 years or fewer. Those reporting 1 year totalled 214 or 22.5 percent; those reporting 2 years totalled 148 or 15.5 percent; those reporting 3 to 5 years totalled 275 or 28.9 percent; those reporting 6 to 10 years totalled 187 or 19.6 percent; and those reporting 11 or more years totalled 129 or 13.5 percent. The last four categories on the questionnaire were combined for purposes of analysis.

STRUCTURAL CHARACTERISTICS

The frequency and percentage frequency of the structural characteristics of present position and major grade level are reported in Table 6; major teaching assignment is reported in Table 7; and number of teachers in school is reported in Table 8.

Present Position

Two categories on the questionnaire were combined for purposes of analysis: counsellor (full-time) and counsellor (part-time). Classroom teachers (full-time) totalled 753 or 78.8 percent; administrators (full-time) totalled 28 or 2.9 percent; administrators (part-time) and classroom teachers (part-time) totalled 107 or 11.2 percent; classroom teachers (part-time) totalled 47 or 4.9 percent; and counsellors (full or part-time) totalled 21 or 2.2 percent.

Major Grade Level

The early childhood and elementary categories on the questionnaire were combined for purposes of analysis. Distribution according to major grade level was as follows: early childhood and elementary, 495 or 51.8 percent; junior high, 252 or 26.4 percent; and senior high, 208 or 21.8 percent.

Major Teaching Assignment

In order to simplify presentation of the results for groups of teachers classified by the subject most commonly taught, the following clusters of subject areas were made: core subjects (English/social studies/math/science) with 262 teachers or 27.4 percent; second language with 73 teachers or 7.7 percent; fine arts (art/music/drama) with 34 teachers or 3.6 percent; elementary/early childhood education with 292 teachers or 30.6 percent; practical arts (home economics/ industrial education/business education/outdoor education) with 77 teachers or 8.1 percent; physical education with 32 teachers or 3.4 percent; counselling with 23 teachers or 2.4 percent; resource

Table 6

Frequency and Percentage Frequency Distribution of Respondents Classified by Present Position and Major Grade Level

Characteristic	f	%
Present Position (N=956)		
Classroom teacher (full-time)	753	78.8
Administrator (full-time)	28	2.9
Administrator (part-time)/classroom teacher (part-time)	107	11.2
Classroom teacher (part-time)	47	4.9
Counsellor (full-time or part-time)	21	2.2
Major Grade Level (N=955)		
Early Childhood and Elementary	495	[illegible].8
Junior High	252	26.4
Senior High	208	21.8

Table 7

Frequency and Percentage Frequency Distribution of Respondents Classified by Major Teaching Assignment

Major Teaching Assignment (N=953)	f	%
English/Social Studies/Math/Science	262	27.4
Second Language	73	7.7
Fine Arts (Art/Music/Drama)	34	3.6
Elementary/Early Childhood	292	30.6
Practical Arts (Home Economics/Industrial/Business/Outdoor Education)	77	8.1
Physical Education	32	3.4
Counselling	23	2.4
Resource Room/Special Education	78	8.2
Administration	25	2.6
Reading	32	3.4
Religious Studies	25	2.6

Table 8

Frequency and Percentage Frequency Distribution of Respondents Classified by Number of Teachers in School

Characteristic	f	%
Number of Teachers in School (N=953)		
10 or fewer	160	16.8
11-20	344	36.1
21-30	186	19.5
31-40	118	12.4
41 or more	145	15.2

room/special education with 78 teachers or 8.2 percent; administration with 25 teachers or 2.6 percent; reading with 32 teachers or 3.4 percent; and religious studies with 25 teachers or 2.6 percent. There were no respondents who claimed library as a major teaching assignment. The clusters were formed on the basis of numbers for comparison purposes and similarity of assignment.

Number of Teachers in School

The measure of school size used was number of teachers in the school. For purposes of analysis, the categories 41 to 50, 51 to 60 and 60 or more were combined, and the categories fewer than 5 and 5 to 10 were combined. More than 50 percent of the respondents reported being in a school of 20 or fewer teachers. Those reporting 10 or fewer totalled 160 or 16.8 percent; those reporting 11 to 20 totalled 344 or 36.1 percent; those reporting 21 to 30 totalled 186 or 19.5 percent; those reporting 31 to 40 totalled 118 or 12.4 percent; and those reporting 41 or more totalled 145 or 15.2 percent.

SUMMARY

Frequency and percentage frequency of respondents on the individual variables were presented in this chapter. The variables and categories outlined in the chapter were used for further analysis of the data reported in Chapters 5 and 6.

On personal characteristics, 59.8 percent of the respondents were female and more than 65 percent of the respondents were under the age of 40 years. Some 36.2 percent of the respondents reported physical illness they deemed to be work-related and 51.4 percent reported that they had experienced a number of stressful situations in their personal lives. Only 58.4 percent indicated they planned to pursue a career in education until normal retirement age.

On professional characteristics, over 90 percent of the respondents had 4 or more years of education for salary purposes. Approximately 50 percent had 10 or fewer years of teaching experience and more than 65 percent had been in their present school for 5 years or fewer.

On structural characteristics, 78.8 percent of the respondents indicated they were full-time classroom teachers, more than half teaching at the elementary level. For more than 50 percent, the major teaching assignment was either the core subjects or elementary/early childhood education. Finally, more than 50 percent of the respondents reported teaching in schools of 20 or fewer teachers.

CHAPTER 5

ANALYSIS OF THE DATA: OVERALL WORK-RELATED STRESS AND STRESS RELATED TO ORGANIZATIONAL ITEMS

Statistical analyses relating to Problem 1 and Problem 2 are reported in this chapter. Problem 1 focused on overall work-related stress and the extent to which it was associated with the personal, professional and structural variables reported in Chapter 4. Problem 2 focused on initial analyses of the organizational items.

PROBLEM 1: OVERALL WORK-RELATED STRESS

Sub-Problem 1.1

"To what extent do teachers experience overall work-related stress?"

The frequency and percentage frequency distribution of respondents on overall work-related stress are reported in Table 9. Twenty or 2.1 percent reported "no stress;" 201 or 21 percent reported "some stress;" 414 or 43.4 percent reported "moderate stress;" 271 or 28.4 percent reported "considerable stress;" and 49 or 5.1 percent reported "very much stress." More than 75 percent of the respondents found their work moderately to very stressful, the mean score being 3.1.

Sub-Problem 1.2

"To what extent is overall work-related stress of teachers

Table 9

Frequency and Percentage Frequency Distribution of Respondents on Overall Work-Related Stress

	Total	
Work-Related Stress (N=955)	f	%
No Stress	20	2.1
Some Stress	201	21.0
Moderate Stress	414	43.4
Considerable Stress	271	28.4
Very Much Stress	49	5.1

associated with personal variables: sex, age, physical illness, personal life stress, and commitment to the profession?"

Sex, Age. With respect to sex, the t Test indicated no statistically significant difference between males and females on overall work-related stress. Similarly with respect to age, analysis of variance indicated no statistically significant differences between groups on overall work-related stress.

Physical Illness. Differences in overall work-related stress between teachers who reported physical illness and those who reported no physical illness are presented in Table 10. The t value of 12.86 with an associated probability of .00 indicated that the difference between the means was statistically significant. The mean for those who experienced physical illness, 3.58, was significantly higher than the mean for those who experienced no physical illness, 2.88. Thus, teachers who experienced physical illness tended to experience more overall work-related stress.

Personal Life Stress. Differences in overall work-related stress between teachers who reported personal life stress and those who reported no personal life stress are presented in Table 11. The t value of 3.48 with an associated probability of .00 indicated that the difference between the means was statistically significant. The mean for those who experienced personal life stress, 3.23, was significantly higher than the mean for those who experienced no personal life stress, 3.03. Thus, teachers who experienced a number of stressful situations in their personal lives tended to experience more overall work-related stress.

Table 10

Differences in Overall Work-Related Stress between Teachers Who Reported Physical Illness and Those Who Reported No Physical Illness

Physical Illness	Number	Mean	Standard Deviation	D.F.	t	p
Yes	343	3.58	0.79	947	12.86	.00
No	606	2.88	0.82			

Table 11

Differences in Overall Work-Related Stress between Teachers Who Reported Personal Life Stress and Those Who Reported No Personal Life Stress

Personal Life Stress	Number	Mean	Standard Deviation	D.F.	t	p
Yes	488	3.23	0.81	945	3.48	.00
No	459	3.03	0.93			

Commitment to the Profession. With respect to commitment to the profession, the F value of 15.46 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the mean for those who were leaving, 3.32, and the mean for those who were undecided, 3.30, were both significantly higher than the mean for those who planned to pursue a career in education until normal retirement age, 3.00. This is reported in Table 12. Thus, teachers who expressed a propensity to leave the profession prior to normal retirement age also tended to experience more overall work-related stress.

Sub-Problem 1.3

"To what extent is overall work-related stress of teachers associated with professional variables: years of education for salary purposes, years of teaching experience, and number of years in present school?"

Analysis of variance indicated no statistically significant differences between the groups on overall work-related stress. Thus, education, experience and number of years in present school had no association with the overall work-related stress that teachers reported.

Sub-Problem 1.4

"To what extent is overall work-related stress of teachers associated with structural variables: present position, major grade level, major teaching assignment, and number of teachers in school?"

Table 12

One-Way Analysis of Variance of Overall Work-Related Stress among Teachers Classified by Their Commitment to the Profession

	1. Not Leaving (N=558)		2. Undecided (N=79)		3. Leaving (N=318)				Significance between groups
Source	Mean	SD	Mean	SD	Mean	SD	F	p	
Overall Work-Related Stress	3.00	0.91	3.30	0.76	3.32	0.80	15.46	.00	3,1 2,1

Again, analysis of variance indicated no statistically significant differences between the groups on overall work-related stress. Position, grade level, teaching assignment or number of teachers in the school seemed to have no association with the overall work-related stress that teachers reported.

PROBLEM 2: STRESS RELATED TO ORGANIZATIONAL ITEMS

Sub-Problem 2.1

"To what extent do teachers experience stress on selected organizational items?"

Table 13 shows the percentage frequency distribution of responses for all of the respondents taken collectively for each of the 67 organizational items. It includes the percentage frequency distributions for the five response categories relating to "frequency of occurrence" and for the five response categories relating to "stress." The theoretical mean score for each of the response categories, assuming normal distribution of responses, is 3.00. Forty-one of the 67 items had means for "frequency of occurrence" below this theoretical mean of 3.00 and 59 of the 67 items had means for "stress" below the theoretical mean. Of those items having "frequency of occurrence" means greater than or equal to 3.00, 14 had means between 3.00 and 3.49, 11 between 3.50 and 3.99 and 1 between 4.00 and 4.50. Of those items having "stress" means greater than or equal to 3.00, 6 had means between 3.00 and 3.49 and 2 between 3.50 and 3.99. Five items were reported to never occur and therefore present no stress for more than 50 percent of the respondents: split-grades, involuntary

Table 13

Percentage Frequency Distribution of Responses to Organizational Items with Means of Responses for Frequency and Stress

Organizational Items	Frequency of Occurrence Percentage of Responses						Stress Percentage of Responses					
	1	2	3	4	5		1	2	3	4	5	
	Never	Rarely	Occasionally	Frequently	Almost Constantly	Frequency Means	No Stress	Some Stress	Moderate Stress	Considerable Stress	Very Much Stress	Stress Means
1. Over-sized classes	7	15	45	26	7	3.13	12	22	23	30	13	3.11
2. Split grades	49	14	19	13	5	2.13	51	10	12	16	11	2.26
3. Involuntary transfer to another school	67	17	12	3	1	1.54	64	9	7	10	11	1.95
4. Lack of feeling of job security	31	28	25	10	7	2.35	36	23	14	14	13	2.44
5. Theft or damage to personal property	36	41	21	2	0	1.91	43	28	14	10	5	2.08
6. Student vandalism	15	36	35	13	1	2.48	24	34	26	15	5	2.44
7. Verbal abuse by students	17	45	28	9	2	2.34	24	31	17	19	9	2.58
8. Lack of resources (e.g., books, supplies, equipment)	9	27	33	22	6	2.89	17	29	25	19	10	2.78
9. Lack of parental support	5	24	46	21	4	2.96	12	28	27	22	12	2.95
10. Lack of available consultative help	19	39	30	9	3	2.37	35	34	20	8	3	2.10
11. Lack of well-defined goals and objectives	12	38	34	13	4	2.59	22	37	23	13	6	2.45
12. Lack of opportunity for promotion	29	24	22	15	11	2.55	44	23	19	9	6	2.08
13. Lack of time during school day to get work done	2	9	23	34	32	3.83	6	17	24	29	24	3.48
14. Frequent interruptions in your work	3	21	37	29	10	3.21	16	27	27	21	10	2.83
15. Serving as a role model	7	14	29	27	24	3.48	28	35	22	10	5	2.29
16. Insufficient salary for work done	13	18	28	22	20	3.17	25	26	25	13	11	2.59
17. Lack of opportunity to interact with peers	17	32	29	17	5	2.61	35	33	20	10	3	2.13
18. Job assignment outside area of expertise	21	35	28	13	3	2.41	32	29	16	16	9	2.42
19. Open-area classrooms	73	14	8	4	2	1.48	71	9	6	7	7	1.70
20. Windowless classrooms	51	15	14	9	11	2.12	59	12	11	10	9	1.98
21. Lack of staff facilities (e.g., in workroom, staffroom)	33	29	24	9	5	2.24	44	26	15	10	5	2.05
22. Meeting deadlines	7	20	36	27	11	3.15	14	30	30	18	9	2.78
23. Student absenteeism	4	19	38	30	9	3.19	17	33	27	17	6	2.62
24. Disruptive students	2	15	41	30	12	3.35	5	20	24	25	26	3.46

Table 13 (continued)

Organizational Items	Frequency of Occurrence Percentage of Responses 1 Never	2 Rarely	3 Occasionally	4 Frequently	5 Almost Constantly	Frequency Means	Stress Percentage of Responses 1 No Stress	2 Some Stress	3 Moderate Stress	4 Considerable Stress	5 Very Much Stress	Stress Means
25. Unmotivated students	1	8	40	38	14	3.57	2	18	28	30	22	3.51
26. Lack of positive feedback	4	17	39	29	11	3.28	10	28	30	20	12	2.96
27. Lack of clerical help	19	32	25	16	8	2.62	33	28	18	14	7	2.34
28. Staff evaluation procedures	16	37	38	8	2	2.44	30	33	20	10	7	2.33
29. Parent-teacher interviews	3	13	58	24	2	3.09	18	35	30	12	5	2.51
30. Lack of administrative support	22	34	25	13	6	2.48	27	25	16	16	15	2.67
31. Lack of "breaks" (e.g., coffee)	21	28	26	16	9	2.63	34	27	19	13	7	2.33
32. Travelling between schools	80	8	6	2	4	1.40	80	8	5	3	4	1.44
33. Lack of participation in making decisions that affect my work	3	34	33	15	6	2.77	18	34	21	16	11	2.68
34. Lack of cooperation of other staff members	10	41	37	9	3	2.53	20	35	24	14	7	2.53
35. Attending after-school inservice activities	5	29	54	10	1	2.73	30	33	19	12	6	2.32
36. Supervising students outside the classroom (e.g., recess, noon hour)	4	9	26	47	14	3.59	16	23	25	20	17	2.98
37. Managing extra-curricular activities	9	25	39	20	7	2.91	23	36	23	13	6	2.42
38. Diagnosing student needs	2	6	29	39	24	3.78	11	33	31	18	8	2.79
39. Preparing materials	1	4	14	36	46	4.22	13	31	28	17	11	2.84
40. Working with volunteers/aides	31	28	27	10	4	2.30	51	32	12	4	2	1.73
41. Student evaluation procedures	2	5	23	46	25	3.86	11	33	31	19	7	2.79
42. Program evaluation procedures	6	20	46	21	7	3.03	19	38	28	12	4	2.45
43. Helping students with personal problems	2	13	42	30	14	3.40	17	37	26	15	6	2.56
44. Completing forms, surveys and other paperwork	1	7	36	42	14	3.61	14	31	25	18	12	2.83
45. Experiencing rapid curriculum change	11	25	39	21	5	2.85	21	28	24	18	8	2.65
46. Conducting field trips	8	23	50	14	3	2.78	21	33	25	15	6	2.52
47. Receiving incompatible requests from two or more people	18	44	29	8	2	2.32	26	32	20	15	7	2.45

Table 13 (continued)

Organizational Items	Frequency of Occurrence Percentage of Responses 1 Never	2 Rarely	3 Occasionally	4 Frequently	5 Almost Constantly	Frequency Means	Stress Percentage of Responses 1 No Stress	2 Some Stress	3 Moderate Stress	4 Considerable Stress	5 Very Much Stress	Stress Means
48. Implementing policies with which I disagree	8	39	41	10	3	2.60	13	30	19	23	16	3.00
49. Being required to make frequent role changes (e.g., mother, nurse, referee, judge, social worker, father, policeman)	5	12	26	29	29	3.65	14	27	21	21	16	2.99
50. Experiencing poor relationships with a colleague	11	54	29	4	1	2.30	20	34	17	16	14	2.73
51. Dealing with individual differences	1	9	24	37	29	3.84	10	32	28	20	10	2.87
52. Providing help to colleagues	2	10	56	28	5	3.25	37	39	19	4	2	1.94
53. Conflicting needs of students (e.g., parents, teachers, central office, school board)	2	19	43	27	10	3.23	11	28	27	21	14	2.98
54. Disagreeing with a supervisor	13	50	32	4	2	2.30	23	33	20	15	10	2.55
55. Trying to set priorities	4	11	39	34	12	3.41	11	32	31	17	9	2.81
56. Not knowing what is expected of me	14	39	33	10	4	2.50	22	32	19	15	11	2.60
57. Working with associates I feel are incompetent	13	43	34	7	4	2.44	22	28	19	17	13	2.71
58. Unrealistic expectations of others about what can be accomplished	9	39	38	10	4	2.60	19	34	21	15	11	2.66
59. Personality conflicts with students	8	47	40	5	1	2.43	14	35	21	19	12	2.81
60. Lack of public appreciation for work teachers do	3	12	31	33	22	3.59	11	22	23	23	20	3.19
61. Being accountable for the work of others	16	39	28	12	5	2.52	24	32	22	15	8	2.51
62. Lack of communication among staff	9	31	39	16	6	2.78	16	31	24	18	11	2.78
63. Lack of communication between the school and central office	8	33	38	16	6	2.79	21	32	23	15	9	2.58
64. Conducting fund-raising activities	15	30	38	14	4	2.61	28	30	22	11	9	2.43
65. Lack of sufficient planning time during school day	4	12	22	30	32	3.75	8	16	23	25	28	3.49
66. Lack of clearly-defined school policies	9	36	34	13	8	2.75	17	30	24	15	13	2.77
67. Lack of proper placement for students with special needs	2	14	36	30	19	3.50	5	16	20	25	33	3.65

transfer to another school, open-area classrooms, windowless classrooms, and travelling between schools.

Sub-Problem 2.2

"What is the rank order of the organizational items when they are ranked from most stressful to least stressful for the TOTAL group?"

Table 14 shows the rank order of organizational items according to stress reported by teachers in the district. The ordering was done utilizing the means obtained from a factor analysis so that there would not be a variable N. The N for all the items is, therefore, 759. The theoretical mean is 3.00.

This rank ordering is useful insofar as it indicates which organizational items were sources of the most stress for most of the teachers in the school district. The means range from 3.65 for lack of proper placement for students with special needs to 1.43 for travelling between schools. It should not be construed, however, that a few of the items toward the end of the rank ordering are not considered by teachers as being stressful. Many of them simply happen to fewer teachers. Windowless classrooms is an example. Three hundred and seventeen teachers reported that they experienced windowless classrooms "occasionally," "frequently," or "almost constantly," and 103 rated them "moderate stress," 95 "considerable stress" and 81 "very much stress."

Sub-Problem 2.3

"What is the rank order of the organizational items when both frequency of occurrence and stress are combined (organizational

Table 14

Rank Order of Organizational Items According to Stress Reported by Teachers in the District (N=759)

Rank	Organizational Item	Mean
1	Lack of proper placement for students with special needs	3.65
2	Lack of sufficient planning time during school day	3.52
3	Lack of time during school day to get work done	3.51
4	Unmotivated students	3.50
5	Disruptive students	3.46
6	Lack of public appreciation for work teachers do	3.23
7	Over-sized classes	3.12
8	Implementing policies with which I disagree	3.04
9	Conflicting needs of students (e.g., parents, teachers, central office, school board)	3.03
10	Supervising students outside the classroom (e.g., recess, noon hour)	3.00
11	Being required to make frequent role changes (e.g., mother, nurse, referee, judge, social worker, father, policeman)	2.99
12	Lack of positive feedback	2.98
13	Lack of parental support	2.93
14	Dealing with individual differences	2.90
15	Preparing materials	2.89

Table 14 (continued)

Rank	Organizational Item	Mean
16	Frequent interruptions in your work	2.88
17	Trying to set priorities	2.85
18	Completing forms, surveys and other paperwork	2.84
19	Student evaluation procedures	2.82
20	Diagnosing student needs	2.81
21	Meeting deadlines	2.80
22	Lack of communication among staff	2.80
23	Personality conflicts with students	2.80
24	Lack of resources (e.g., books, supplies, equipment)	2.79
25	Lack of clearly-defined school policies	2.77
26	Working with associates I feel are incompetent	2.76
27	Experiencing poor relationships with a colleague	2.71
28	Lack of participation in making decisions that affect my work	2.70
29	Lack of administrative support	2.68
30	Experiencing rapid curriculum change	2.67
31	Student absenteeism	2.65
32	Unrealistic expectations of others about what can be accomplished	2.64
33	Not knowing what is expected of me	2.63
34	Insufficient salary for work done	2.61

Table 14 (continued)

Rank	Organizational Item	Mean
35	Lack of communication between the school and central office	2.59
36	Verbal abuse by students	2.59
37	Helping students with personal problems	2.56
38	Disagreeing with a supervisor	2.56
39	Being accountable for the work of others	2.55
40	Lack of cooperation of other staff members	2.55
41	Conducting field trips	2.53
42	Parent-teacher interviews	2.52
43	Program evaluation procedures	2.49
44	Receiving incompatible requests from two or more people	2.47
45	Lack of well-defined goals and objectives	2.46
46	Managing extra-curricular activities	2.45
47	Conducting fund-raising activities	2.45
48	Student vandalism	2.45
49	Lack of feeling of job security	2.41
50	Job assignment outside area of expertise	2.38
51	Attending after-school inservice activities	2.37
52	Lack of "breaks" (e.g., coffee)	2.36
53	Lack of clerical help	2.36
54	Staff evaluation procedures	2.32

Table 14 (continued)

Rank	Organizational Item	Mean
55	Serving as a role model	2.30
56	Split grades	2.19
57	Lack of opportunity to interact with peers	2.14
58	Lack of available consultative help	2.11
59	Lack of opportunity for promotion	2.10
60	Theft or damage to personal property	2.08
61	Lack of staff facilities (e.g., in workroom, staffroom)	2.08
62	Providing help to colleagues	1.96
63	Windowless classrooms	1.95
64	Involuntary transfer to another school	1.93
65	Working with volunteers/aides	1.75
66	Open-area classrooms	1.65
67	Travelling between schools	1.43

stress), and they are ranked from most stressful to least stressful for the TOTAL group?"

Table 15 shows the rank order of organizational items according to organizational stress (frequency x stress) reported by teachers in the district. This ordering was done utilizing the means obtained from the factor analysis reported in Chapter 6. The N for all the items is 754. The theoretical mean is 13.00.

This ranking reflects those items which were perceived as being the sources of the most stress for most teachers most often. Items relating to lack of time become first and second in the ranking. Of the top ten items reported in Table 14 seven remain in the top ten when frequency of occurrence is taken into consideration: lack of time during school day to get work done, lack of sufficient planning time during school day, lack of proper placement for students with special needs, unmotivated students, lack of public appreciation for work teachers do, disruptive students, and supervising students outside the classroom (e.g., recess, noon hour). The means range from 14.47 for lack of time during school day to get work done to 2.61 for travelling between schools.

Sub-Problem 2.4

"What is the rank order of the organizational items when only stress which occurs 'frequently' or 'almost constantly' for individuals is taken into consideration?"

Table 16 shows the rank order of organizational items according to stress reported by individuals to whom they occur "frequently" or "almost constantly." This ranking reflects those items which were

Table 15

Rank Order of Organizational Items According to Organizational Stress (Frequency x Stress) Reported by Teachers in the District (N=754)

Rank	Organizational Item	Mean
1	Lack of time during school day to get work done	14.47
2	Lack of sufficient planning time during school day	14.43
3	Lack of proper placement for students with special needs	13.75
4	Unmotivated students	13.08
5	Preparing materials	12.62
6	Lack of public appreciation for work teachers do	12.53
7	Disruptive students	12.35
8	Being required to make frequent role changes (e.g., mother, nurse, referee, judge, social worker, father, policeman)	11.84
9	Supervising students outside the classroom (e.g., recess, noon hour)	11.56
10	Dealing with individual differences	11.53
11	Student evaluation procedures	11.24
12	Diagnosing student needs	11.04
13	Completing forms, surveys and other paperwork	10.91
14	Lack of positive feedback	10.61
15	Conflicting needs of students (e.g., parents, teachers, central office, school board)	10.60

Table 15 (continued)

Rank	Organizational Item	Mean
16	Over-sized classes	10.56
17	Trying to set priorities	10.44
18	Frequent interruptions in your work	10.19
19	Meeting deadlines	9.75
20	Insufficient salary for work done	9.61
21	Lack of parental support	9.33
22	Student absenteeism	9.22
23	Helping students with personal problems	9.13
24	Lack of resources (e.g., books, supplies, equipment)	9.07
25	Implementing policies with which I disagree	8.67
26	Lack of clearly-defined school policies	8.65
27	Serving as a role model	8.58
28	Lack of communication among staff	8.58
29	Experiencing rapid curriculum change	8.56
30	Lack of participation in making decisions that affect my work	8.54
31	Parent-teacher interviews	8.13
32	Lack of communication between the school and central office	8.12
33	Program evaluation procedures	8.03
34	Lack of administrative support	7.97
35	Managing extra-curricular activities	7.84

Table 15 (continued)

Rank	Organizational Item	Mean
36	Unrealistic expectations of others about what can be accomplished	7.73
37	Not knowing what is expected of me	7.57
38	Working with associates I feel are incompetent	7.57
39	Lack of "breaks" (e.g., coffee)	7.55
40	Conducting field trips	7.50
41	Lack of clerical help	7.45
42	Being accountable for the work of others	7.38
43	Lack of cooperation of other staff members	7.30
44	Personality conflicts with students	7.28
45	Lack of well-defined goals and objectives	7.23
46	Conducting fund-raising activities	7.20
47	Lack of feeling of job security	7.01
48	Attending after-school inservice activities	6.99
49	Verbal abuse by students	6.95
50	Experiencing poor relationships with a colleague	6.89
51	Student vandalism	6.85
52	Job assignment outside area of expertise	6.75
53	Providing help to colleagues	6.60
54	Receiving incompatible requests from two or more people	6.55
55	Lack of opportunity to interact with peers	6.54

Table 15 (continued)

Rank	Organizational Item	Mean
56	Disagreeing with a supervisor	6.51
57	Lack of opportunity for promotion	6.42
58	Staff evaluation procedures	6.37
59	Split grades	5.90
60	Lack of staff facilities (e.g., in workroom, staffroom)	5.86
61	Lack of available consultative help	5.75
62	Windowless classrooms	5.33
63	Theft or damage to personal property	4.59
64	Working with volunteers/aides	4.50
65	Involuntary transfer to another school	3.83
66	Open-area classrooms	3.13
67	Travelling between schools	2.61

Table 16

Rank Order of Organizational Items According to Stress Reported by Individuals to Whom They Occur "Frequently" or "Almost Constantly"

Rank	Organizational Item	Percent Reporting	Mean
1	Lack of proper placement for students with special needs	48.6	4.43
2	Lack of administrative support	18.8	4.30
3	Involuntary transfer to another school	3.8	4.28
4	Lack of clearly-defined school policies	20.8	4.27
5	Disruptive students	41.9	4.26
6	Implementing policies with which I disagree	12.3	4.26
7	Lack of feeling of job security	16.7	4.24
8	Unrealistic expectations of others about what can be accomplished	13.7	4.24
9	Experiencing poor relationships with a colleague	5.4	4.21
10	Lack of sufficient planning time during school day	62.1	4.17
11	Lack of participation in making decisions that affect my work	20.6	4.15
12	Verbal abuse by students	10.3	4.13
13	Working with associates I feel are incompetent	10.1	4.11
14	Lack of time during school day to get work done	65.4	4.08

Table 16 (continued)

Rank	Organizational Item	Percent Reporting	Mean
15	Lack of cooperation of other staff members	11.7	4.08
16	Unmotivated students	51.5	4.03
17	Lack of resources (e.g., books, supplies, equipment)	27.3	4.02
18	Disagreeing with a supervisor	5.3	4.02
19	Receiving incompatible requests from two or more people	9.4	4.00
20	Job assignment outside area of expertise	15.6	3.99
21	Lack of staff facilities (e.g., in workroom, staffroom)	14.3	3.95
22	Not knowing what is expected of me	13.4	3.95
23	Lack of communication among staff	21.2	3.93
24	Over-sized classes	43.4	3.91
25	Lack of well-defined goals and objectives	16.7	3.91
26	Staff evaluation procedures	9.7	3.90
27	Lack of clerical help	23.9	3.88
28	Personality conflicts with students	5.3	3.88
29	Conflicting needs of students (e.g., parents, teachers, central office, school board)	36.1	3.87
30	Lack of public appreciation for work teachers do	54.5	3.84

Table 16 (continued)

Rank	Organizational Item	Percent Reporting	Mean
31	Experiencing rapid curriculum change	25.6	3.84
32	Lack of parental support	25.2	3.82
33	Lack of communication between the school and central office	21.5	3.82
34	Frequent interruptions in your work	38.9	3.79
35	Being accountable for the work of others	17.1	3.76
36	Lack of positive feedback	40.4	3.74
37	Lack of "breaks" (e.g., coffee)	24.7	3.74
38	Student vandalism	13.7	3.71
39	Insufficient salary for work done	41.1	3.65
40	Split grades	18.4	3.65
41	Meeting deadlines	37.2	3.64
42	Conducting fund-raising activities	16.9	3.62
43	Theft or damage to personal property	2.4	3.61
44	Being required to make frequent role changes (e.g., mother, nurse referee, judge, social worker, father, policeman)	57.6	3.59
45	Lack of available consultative help	11.6	3.57
46	Supervising students outside the classroom (e.g., recess, noon hour)	60.9	3.55

Table 16 (continued)

Rank	Organizational Item	Percent Reporting	Mean
47	Attending after-school inservice activities	11.6	3.55
48	Lack of opportunity to interact with peers	21.6	3.42
49	Student absenteeism	38.6	3.39
50	Windowless classrooms	19.0	3.39
51	Completing forms, surveys and other paperwork	66.0	3.38
52	Open-area classrooms	5.9	3.38
53	Trying to set priorities	46.3	3.35
54	Travelling between schools	5.2	3.32
55	Managing extra-curricular activities	26.9	3.28
56	Lack of opportunity for promotion	25.5	3.18
57	Dealing with individual differences	65.8	3.13
58	Diagnosing student needs	63.0	3.08
59	Program evaluation procedures	27.7	3.06
60	Helping students with personal problems	43.1	3.05
61	Parent-teacher interviews	25.7	3.03
62	Student evaluation procedures	70.0	3.01
63	Preparing materials	80.9	2.99

Table 16 (continued)

Rank	Organizational Item	Percent Reporting	Mean
64	Conducting field trips	17.2	2.98
65	Serving as a role model	50.3	2.71
66	Providing help to colleagues	32.6	2.29
67	Working with volunteers/aides	14.2	2.14

perceived as the sources of the most stress for individuals, with the percentage reporting being variable. All but five items, providing help to colleagues, working with volunteers/aides, serving as a role model, preparing materials and conducting field trips, have means above the theoretical mean of 3.00. Fifteen items have means between 3.00 and 3.49, 28 between 3.50 and 3.99, and 19 between 4.00 and 4.49.

Of the top ten items reported in Table 14, only four remain: lack of proper placement for students with special needs, disruptive students, implementing policies with which I disagree, and lack of sufficient planning time during school day. The other top ten items for individuals include: lack of administrative support, involuntary transfer to another school, lack of clearly-defined school policies, lack of feeling of job security, unrealistic expectations of others about what can be accomplished, and experiencing poor relationships with a colleague.

Sub-Problem 2.5

"Which organizational items are the best predictors of overall work-related stress?"

The 67 organizational items were used in a regression analysis to determine the best predictors of the criterion variable, overall work-related stress. The results of this analysis are summarized in Table 17. This table shows the top 14 organizational items that were identified as predictor variables, along with the Multiple R, the R Square or coefficient of determination, and the correlation coefficient for each item.

The best predictor of overall work-related stress was lack of

Table 17

Regression Analysis Predicting Overall Work-Related Stress
(N=753)

Variable in Order of Entry	Multiple R	R Square	r
Lack of sufficient planning time during school day	0.48	0.23	0.48
Conflicting needs of students (e.g., parents, teachers, central office, school board)	0.57	0.32	0.45
Disruptive students	0.60	0.36	0.41
Experiencing poor relationships with a colleague	0.62	0.39	0.33
Serving as a role model	0.64	0.41	0.37
Preparing materials	0.65	0.43	0.43
Frequent interruptions in your work	0.66	0.44	0.39
Lack of feeling of job security	0.67	0.45	0.21
Lack of opportunity for promotion	0.68	0.46	0.27
Involuntary transfer to another school	0.68	0.46	0.05
Over-sized classes	0.69	0.47	0.36
Lack of parental support	0.69	0.48	0.40
Staff evaluation procedures	0.69	0.48	0.32
Personality conflicts with students	0.70	0.49	0.36

sufficient planning time during school day. It was associated with 23 percent of the variance in overall work-related stress. When combined with conflicting needs of students (e.g., parents, teachers, central office, school board), the two variables in combination were associated with 32 percent of the variance. The 14 items listed in Table 17, all significant predictor variables (p = .00), accounted for 49 percent of the variance.

SUMMARY

Problem 1 focused on overall work-related stress. More than 75 percent of the respondents indicated that they found their work entailed moderate, considerable or very much stress. When overall work-related stress was associated with the personal variables of sex, age, physical illness, personal life stress and commitment to the profession, only the latter three associations were found to be statistically significant. Those who reported physical illness, those who experienced personal life stress and those who planned to leave or were undecided about leaving the profession had significantly higher means on overall work-related stress. The professional variables and structural variables were not associated with overall work-related stress.

Problem 2 focused on stress on the 67 organizational items. Total group means for "frequency of occurrence" of 26 of the items were above the theoretical mean while total group means for "stress" for 8 of the items were above the theoretical mean. Rank orderings for the total group for stress and for organizational stress (frequency x stress) were reported. These utilized means obtained from factor analyses. Seven items were in the top ten of both orderings: lack of time during school day to get work done, lack of sufficient planning time during school day, lack of proper placement for students with special needs, unmotivated students, lack of public appreciation for work teachers do, disruptive students, and supervising students outside the classroom (e.g., recess, noon hour).

A rank ordering of stress on organizational items for individuals to whom the item occurs "frequently" or "almost constantly" was also presented. This represented a fairly dramatic departure from the previous rank orderings. All but five stress means were above the theoretical mean of 3.00, and only four of the previous top ten remained: lack of proper placement for students with special needs, disruptive students, implementing policies with which I disagree, and lack of sufficient planning time during school day.

Finally, a multiple regression analysis indicated that more than 14 of the 67 items were significant predictors of overall work-related stress. The 14 reported accounted for 49 percent of the cumulative percentage of variance. The first two predictors, lack of sufficient planning time during school day and conflicting needs of students (e.g., parents, teachers, central office, school board), together accounted for almost one-third of the total variance.

CHAPTER 6

ANALYSIS OF THE DATA: STRESS FACTORS AND FURTHER ANALYSIS OF THE STRESS OF RESPONDENTS

Chapter 6 contains the various analyses performed on the data for Problem 3 and Problem 4. Problem 3 investigated stress factors and the extent to which these were associated with individual variables, personal, professional and structural. Problem 4 investigated the relationships between three of the personal variables, physical illness, personal life stress and commitment to the profession, and the other individual variables.

PROBLEM 3: STRESS FACTORS

Sub-Problem 3.1

"Do the organizational stress items represent identifiable general organizational factors?"

The 67 organizational stress (frequency x stress) items were factor analyzed using varimax rotation. Three, four, five, six, seven and eight factor solutions were examined, with the five factor solution providing the greatest degree of meaning. It provided the most logical clustering of variables and included the greatest number of variables. Table 18 contains the factors and factor loadings for each of the 67 items. For each factor, those items with loadings of .40 and greater have been used in factor interpretation. Three items, conflicting needs of students (e.g., parents, teachers, central office, school

Table 18

Varimax Factor Solution for 67 Organizational Stress Variables Using Five Factors

(N=754)

Organizational Stress Item	Factors and Factor Loadings (÷ 100)					Communality (÷ 100)
	1 Relationships with Colleagues	2 Teaching Tasks	3 Work Load	4 Relationships with Students	5 Job Security	
Lack of communication among staff	64	10	12	11	- 04	45
Lack of cooperation of other staff members	64	18	08	04	- 04	45
Experiencing poor relationships with a colleague	60	15	01	10	03	39
Lack of communication between the school and central office	60	16	21	13	04	45
Lack of participation in making decisions that affect my work	59	03	20	21	19	47
Lack of administrative support	59	01	25	19	21	49
Implementing policies with which I disagree	58	26	18	19	12	48
Working with associates I feel are incompetent	56	16	08	- 01	- 09	36
Lack of clearly-defined school policies	54	10	21	22	09	40
Disagreeing with a supervisor	54	19	08	14	16	37
Receiving incompatible requests from two or more people	47	38	12	08	23	44
Not knowing what is expected of me	45	24	02	18	25	36
Being accountable for the work of others	41	35	09	08	02	30
Diagnosing student needs	07	61	10	28	03	46
Student evaluation procedures	12	58	24	21	02	45
Dealing with individual differences	19	57	08	32	- 07	48
Helping students with personal problems	16	54	08	21	03	37
Program evaluation procedures	20	54	16	06	- 01	36
Trying to set priorities	22	52	11	17	01	37
Being required to make frequent role changes (e.g., mother, nurse, referee, judge, social worker, father, policeman)	17	52	20	32	05	44
Conflicting needs of students (e.g., parents, teachers, central office, school board)	42	50	13	26	09	52
Completing forms, surveys and other paperwork	15	48	37	- 01	07	39
Conducting field trips	10	47	20	03	25	33

Table 18 (continued)

Organizational Stress Item	Factors and Factor Loadings (÷ 100)					Communality (÷ 100)
	1 Relationships with Colleagues	2 Teaching Tasks	3 Work Load	4 Relationships with Students	5 Job Security	
Providing help to colleagues	37	$\boxed{45}$	09	- 08	- 04	36
Meeting deadlines	21	$\boxed{44}$	35	19	09	40
Experiencing rapid curriculum change	12	$\boxed{43}$	31	01	17	33
Serving as a role model	16	$\boxed{43}$	15	18	01	27
Preparing materials	02	$\boxed{42}$	$\boxed{41}$	26	04	41
Working with volunteers/aides	11	$\boxed{41}$	08	- 15	28	29
Parent-teacher interviews	10	$\boxed{41}$	23	15	20	29
Lack of sufficient planning time during school day	04	37	$\boxed{65}$	18	03	59
Lack of time during day to get work done	03	33	$\boxed{64}$	19	- 03	56
Lack of "breaks" (e.g., coffee)	26	10	$\boxed{54}$	22	03	41
Supervising students outside the classroom (e.g., recess, noon hour)	04	35	$\boxed{46}$	14	18	39
Lack of resources (e.g., books, supplies, equipment)	26	13	$\boxed{45}$	18	10	33
Attending after-school inservice activities	12	37	$\boxed{44}$	03	17	37
Lack of clerical help	24	22	$\boxed{43}$	06	17	33
Frequent interruptions in your work	23	31	$\boxed{43}$	12	- 02	35
Lack of staff facilities (e.g., in workroom, staffroom)	28	15	$\boxed{43}$	10	04	30
Over-sized classes	03	19	$\boxed{41}$	25	13	29
Unmotivated students	15	23	12	$\boxed{66}$	- 03	53
Disruptive students	01	24	23	$\boxed{65}$	15	55
Verbal abuse by students	15	01	28	$\boxed{53}$	22	43
Lack of parental support	24	18	22	$\boxed{47}$	20	40
Lack of positive feedback	$\boxed{43}$	14	19	$\boxed{45}$	15	46
Student absenteeism	20	17	05	$\boxed{44}$	- 01	27
Personality conflicts with students	18	24	11	$\boxed{42}$	06	28
Involuntary transfer to another school	04	- 01	04	09	$\boxed{54}$	31
Lack of feeling of job security	04	- 05	13	19	$\boxed{51}$	32

Table 18 (continued)

Organizational Stress Item	Factors and Factor Loadings (÷ 100)					Communality (÷ 100)
	1 Relationships with Colleagues	2 Teaching Tasks	3 Work Load	4 Relationships with Students	5 Job Security	
Lack of proper placement for students with special needs	25	35	28	36	04	39
Lack of public appreciation for work teachers do	25	34	33	33	01	39
Unrealistic expectations of others about what can be accomplished	37	38	10	14	07	31
Staff evaluation procedures	31	19	16	07	36	30
Lack of well-defined goals and objectives	36	21	18	27	13	30
Conducting fund-raising activities	25	30	33	- 02	16	29
Lack of opportunity to interact with peers	29	04	36	26	- 04	29
Lack of available consultative help	28	13	28	27	18	28
Job assignment outside area of expertise	20	10	24	31	25	26
Managing extra-curricular activities	32	26	28	06	10	26
Insufficient salary for work done	19	19	39	17	01	25
Student vandalism	27	03	21	33	12	24
Theft or damage to personal property	17	- 01	28	24	26	23
Split grades	- 06	32	13	02	31	22
Lack of opportunity for promotion	35	02	18	13	10	18
Open-area classrooms	10	10	14	01	32	14
Travelling between schools	03	06	- 07	02	33	12
Windowless classrooms	14	02	24	05	16	11
Eigenvalues	16.3	2.8	2.1	1.5	1.3	—
Percentage of total variance	25.2	5.0	4.0	3.2	2.9	—
Percentage of common variance	68.0	11.6	8.7	6.3	5.4	—

board), preparing materials, and lack of positive feedback, loaded on more than one factor. Eighteen items did not load at or above the .40 level on any of the five factors. The five factor solution accounted for 40.3 percent of the total variance. The numbers of items loading at or above .40 on each factor and the ranges of the loadings were as follows:

	N	Range
1. Relationships with Colleagues	13	0.41 to 0.64
2. Teaching Tasks	17	0.41 to 0.61
3. Work Load	10	0.41 to 0.65
4. Relationships with Students	7	0.42 to 0.66
5. Job Security	2	0.51 to 0.54

The five factors are described below:

Factor 1. Relationships with Colleagues was the label selected to describe Factor 1. The items dealt with lack of communication, cooperation, support, participation, and other stresses teachers encounter in working with their fellow teachers in the school and in the system.

Factor 2. Factor 2 items mostly dealt with Teaching Tasks. They included the stresses associated with diagnosing, evaluating and helping students, along with other tasks teachers must perform as part of their assigned teaching duties.

Factor 3. Factor 3 contained items related to the stresses of the teacher's Work Load: lack of time, breaks, facilities, resources and additional assignments like supervision, large classes and inservice.

Factor 4. The items in Factor 4 were labelled Relationships with Students. They included the stresses associated with unmotivated, disruptive, abusive students and lack of support and positive feedback.

Factor 5. Labelled Job Security, Factor 5 included the stresses associated with insecurity of position and placement.

Sub-Problem 3.2

"To what extent is teachers' organizational stress on the organizational factors associated with personal variables: sex, age, physical illness, personal life stress, and commitment to the profession?"

Although there was no association between sex and age on the measure of overall work-related stress reported in Chapter 5, that was not the case when the organizational factors were the criterion variables.

Sex. Differences in organizational stress experienced between males and females on the 5 organizational factors are reported in Table 19. The *t* Test indicated that there was no statistically significant difference between males and females on the factor scores for Relationships with Colleagues. However, on Teaching Tasks, the *t* value of - 3.29 with an associated probability of .00 indicated that the difference between the means was statistically significant. The mean for females, 9.68, was significantly higher than the mean for males, 8.93. Similarly, on Work Load, the *t* value of - 4.07 with an associated probability of .00 indicated that the difference between the means was statistically significant. The mean for females, 10.37, was significantly higher than the mean for males, 9.25. There was no

Table 19

Differences in Organizational Stress Experienced between Males and Females on the Five Organizational Factors

Factor	Group	Number	Mean	Standard Deviation	D.F.	t	p
Relationships with Colleagues	Males	383	8.18	3.76	952	1.45	.15
	Females	571	7.82	3.67			
Teaching Tasks	Males	383	8.93	3.43	952	- 3.29	.00
	Females	571	9.68	3.49			
Work Load	Males	383	9.25	4.18	952	- 4.07	.00
	Females	571	10.37	4.14			
Relationships with Students	Males	383	9.51	3.89	952	- 1.76	.08
	Females	571	9.97	3.99			
Job Security	Males	382	4.58	4.19	950	- 4.90	.00
	Females	570	6.14	5.23			

statistically significant difference between males and females on Relationships with Students, but on Job Security the t value of - 4.90 with an associated probability of .00 again indicated that the difference between the means was statistically significant. The mean for females, 6.14, was significantly higher than the mean for males, 4.58. Thus, on three of the five organizational factors, Teaching Tasks, Work Load, and Job Security, females reported statistically significant greater stress than males.

Age. The results of one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by age are presented in Table 20. With respect to the factor scores for Relationships with Colleagues, the F value of 5.57 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the mean for those in the 35-39 age group, 8.73, was significantly higher than the means for those in the 54 plus age group, 6.32, and the 20-24 age group, 6.33. Also the mean for those in the 30-34 age group, 8.47, was significantly higher than the means for those in the 54 plus age group, 6.32, and the 20-24 age group, 6.33.

For Teaching Tasks, the F value of 3.92 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The means for those in the 25-29 age group, 9.88, the 35-39 age group, 9.67, and the 30-34 age group, 9.59, were all significantly higher than the mean for those in the 54 plus age group, 7.81.

Table 20

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Age

Factor	1. 20-24 (N=51)		2. 25-29 (N=192)		3. 30-34 (N=222)		4. 35-39 (N=156)		5. 40-44 (N=132)		6. 45-49 (N=78)		7. 50-54 (N=55)		8. 54 + (N=65)				Significance between groups
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	6.33	3.18	8.11	3.48	8.47	3.82	8.73	3.91	7.85	3.60	8.07	4.10	7.00	3.27	6.32	2.81	5.57	.00	4:8,1 3:8,1
Teaching Tasks	8.03	2.82	9.88	3.24	9.59	3.72	9.67	3.51	9.31	3.26	9.25	3.91	9.35	3.36	7.81	3.25	3.92	.00	2,8 4,8 3,8
Work Load	7.97	3.43	10.50	4.14	10.60	4.30	10.03	4.16	9.73	4.16	10.03	4.42	9.36	3.68	8.10	3.80	5.03	.00	3:1,8 2:1,8
Relationships with Students	9.56	4.16	10.00	4.15	9.96	3.85	10.07	3.78	9.58	3.94	9.83	3.85	9.17	3.89	8.90	4.05	0.99	.44	—
Job Security	9.60	5.91	6.65	5.74	5.34	4.58	5.03	4.29	5.02	4.56	4.61	3.99	4.56	4.30	3.94	3.75	9.12	.00	1:8,7,6 5,4,3,2 2,8

With respect to Work Load, the F value of 5.03 with an associated probability of .00 indicated at least one difference among the means was statistically significant. The means for those in the 30-34 age group, 9.59, and those in the 25-29 age group, 9.88, were both significantly higher than the means for those in the 20-24 age group, 7.97, and those in the 54 plus age group, 8.10. There were no statistically significant differences among means on Relationships with Students.

Once more, however, on Job Security, the F value of 9.12 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the mean for those in the 20-24 age group, 9.60, was significantly higher than the means for those in the 54 plus age group, 3.94, the 50-54 age group, 4.56, the 45-49 age group, 4.61, the 40-44 age group, 5.02, the 35-39 age group, 5.03, the 30-34 age group, 5.34, and the 25-29 age group, 6.65. Also, the mean for the 25-29 age group, 6.65, was significantly higher than that for the 54 plus age group, 3.94. Thus, there were age group differences on all factors except Relationships with Students.

Physical Illness. Differences in organizational stress experienced on the 5 organizational factors between teachers who reported work-related physical illness and those who reported no illness are presented in Table 21. On Relationships with Colleagues, the t value of 9.21 with an associated probability of .00 indicated that the difference between the means was statistically significant. The mean for teachers who reported work-related physical illness, 9.36,

Table 21

Differences in Organizational Stress Experienced on the Five Organizational Factors between Teachers Who Reported Physical Illness and Those Who Reported No Physical Illness

Factor	Group	Number	Mean	Standard Deviation	D.F.	t	p
Relationships with Colleagues	Illness	344	9.36	3.95	949	9.21	.00
	No Illness	607	7.16	3.29			
Teaching Tasks	Illness	344	10.38	3.51	949	7.04	.00
	No Illness	607	8.77	3.33			
Work Load	Illness	344	11.40	4.15	949	8.57	.00
	No Illness	607	9.06	3.98			
Relationships with Students	Illness	344	10.99	3.99	949	7.42	.00
	No Illness	607	9.07	3.76			
Job Security	Illness	344	6.52	5.24	947	4.88	.00
	No Illness	605	4.93	4.59			

was significantly higher than the mean for those who reported no illness, 7.16. On Teaching Tasks, the t value of 7.04 with an associated probability of .00 indicated that the difference between the means was statistically significant. The mean for those who reported illness, 10.38, was significantly higher than the mean for those who reported no illness, 8.77. On Work Load, the t value of 8.57 with an associated probability of .00 again indicated that there was a statistically significant difference between the means. The mean for those who reported illness, 11.40, was significantly higher than the mean for those who reported no illness, 9.06. With respect to Relationships with Students, the t value of 7.42 with an associated probability of .00 indicated that the difference between the means was statistically significant. The mean for those who reported illness, 10.99, was significantly higher than the mean for those who reported no illness, 9.07. Finally, with regard to Job Security, the t value of 4.88 with an associated probability of .00 indicated that the difference between the means was statistically significant. Once again, the mean for those who reported illness, 6.52, was significantly higher than the mean for teachers who reported no illness, 4.93. Thus, as a group, those teachers who reported having experienced work-related physical illness had statistically significant higher mean scores on all five organizational factors.

Personal Life Stress. Differences in organizational stress experienced on the 5 organizational factors between teachers who reported personal life stress and those who reported no personal life stress are reported in Table 22. The t value was significant for only one factor, Relationships with Students. The t value of 2.49 with an

Table 22

Differences in Organizational Stress Experienced on the Five Organizational Factors between Teachers Who Reported Personal Life Stress (PLS) and Those Who Reported No PLS

Factor	Group	Number	Mean	Standard Deviation	D.F.	t	p
Relationships with Colleagues	PLS	488	8.16	3.62	947	1.71	.09
	No PLS	461	7.75	3.79			
Teaching Tasks	PLS	488	9.53	3.32	947	1.42	.16
	No PLS	461	9.21	3.67			
Work Load	PLS	488	10.08	3.99	947	1.12	.26
	No PLS	461	9.77	4.40			
Relationships with Students	PLS	488	10.09	3.83	947	2.49	.01
	No PLS	461	9.45	4.08			
Job Security	PLS	486	5.62	4.91	945	0.69	.49
	No PLS	461	5.40	4.80			

associated probability of .01 indicated that the difference between the means was statistically significant. The mean for those who experienced personal life stress, 10.09, was significantly higher than for teachers who reported no personal life stress, 9.45.

Commitment to the Profession. The results of one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by their commitment to profession are presented in Table 23. There was a significant difference between groups on all but one factor, Teaching Tasks. On Relationships with Colleagues, the F value of 18.62 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the mean for teachers who planned to leave the profession, 8.93, was significantly higher than the mean for teachers who planned to pursue a career in education until normal retirement age, 7.37.

With respect to Work Load, the F value of 8.72 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The mean for teachers who planned to leave, 10.64, was significantly higher than the mean for teachers who planned to stay, 9.45. On Relationships with Students, the F value of 11.00 with an associated probability of .00 indicated that at least one difference among the means was, once more, statistically significant. The mean for teachers who planned to leave, 10.58, was significantly higher than the mean for those who planned to continue, 9.29.

Finally, for Job Security, the F value of 4.96 with an associated probability of .00 indicated that at least one difference

Table 23

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Their Commitment to the Profession

	1. Not Leaving (N=558)		2. Undecided (N=79)		3. Leaving (N=318)				Significance between groups
Factor	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	7.37	3.46	8.02	3.59	8.93	3.91	18.69	.00	3,1
Teaching Tasks	9.20	3.56	9.50	3.41	9.63	3.39	1.62	.20	-
Work Load	9.45	4.14	10.28	4.06	10.64	4.23	8.72	.00	3,1
Relationships with Students	9.29	3.84	9.91	4.06	10.58	4.00	11.00	.00	3,1
Job Security	5.11	4.62	5.49	4.35	6.19	5.41	4.96	.00	3,1

among the means was statistically significant. The Scheffé procedure indicated that the mean for those who planned to leave, 6.19, was significantly higher than the mean for those who planned to pursue a career in education until normal retirement, 5.11.

Sub-Problem 3.3

"To what extent is teachers' organizational stress on the organizational factors associated with professional variables: years of education for salary purposes, years of teaching experience, and number of years in present school?"

Years of Education for Salary Purposes. The results of one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by years of education for salary purposes is presented in Table 24. The F values and associated probabilities indicated a significant difference among groups on only one factor. For Job Security, the F value of 5.98 with an associated probability of .00 suggested that there was at least one significant difference among the means. The Scheffé procedure indicated that the mean for teachers with 4 years of education, 6.22, was significantly higher than the means for those with 6 years, 4.34, and those with 5 years, 4.61.

Years of Teaching Experience. Table 25 presents one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by years of teaching experience. For Relationships with Colleagues, the F value of 5.13 with an associated probability of .00 indicated that at least one difference among means was statistically significant. The Scheffé procedure indicated that the means for teachers with 6-10 years of experience, 8.58, and 11-15

Table 24

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Years of Education for Salary Purposes

	1. One Year (N=26)		2. Two Years (N=32)		3. Three Years (N=25)		4. Four Years (N=515)		5. Five Years (N=203)		6. Six Years (N=153)				Significance between groups
Factor	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	6.22	2.82	7.05	3.90	6.32	3.11	7.84	3.70	8.40	3.45	8.52	4.03	3.95	.00	—
Teaching Tasks	9.58	3.07	9.10	3.83	7.98	4.03	9.42	3.52	9.49	3.38	9.23	3.45	0.97	.44	--
Work Load	9.42	3.22	9.40	4.14	8.56	5.17	10.16	4.24	9.93	4.07	9.52	4.19	1.31	.26	—
Relationships with Students	8.91	3.41	10.11	3.98	8.52	4.12	10.02	4.15	9.71	3.51	9.32	3.87	1.59	.16	—
Job Security	4.88	3.72	6.64	4.91	4.62	4.29	6.22	5.29	4.61	4.38	4.34	3.93	5.98	.00	4,6,5

Table 25

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Years of Teaching Experience

	1. 1 year (N=50)		2. 2 Years (N=35)		3. 3-5 Years (N=144)		4. 6-10 Years (N=245)		5. 11-15 Years (N=218)		6. 16-20 Years (N=124)		7. 20 + Years (N=138)				
Factor	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	p	Significance between groups
Relationships with Colleagues	6.66	3.82	6.83	3.35	7.70	3.72	8.58	3.90	8.53	3.65	7.83	3.52	7.09	3.26	5.13	.00	4:1,7 5:1,7
Teaching Tasks	8.11	3.02	8.14	2.50	9.30	3.54	9.70	3.54	9.45	3.49	9.81	3.66	9.06	3.44	2.75	.01	—
Work Load	8.55	3.70	8.19	3.21	9.86	4.68	10.68	4.05	10.07	4.26	9.63	3.99	9.56	4.14	3.58	.00	4:1,2
Relationships with Students	9.42	4.18	9.33	4.00	9.70	4.18	10.41	4.15	9.76	3.65	9.41	3.46	9.35	4.08	1.67	.13	—
Job Security	8.61	5.64	10.79	6.51	6.28	5.60	5.18	4.45	4.98	4.45	4.69	4.14	4.32	3.95	14.42	.00	2:7,6,5,4,3 1:7,6,5,4 3,7

years of experience, 8.53, were significantly higher than the means for teachers with 1 year of experience, 6.66, or 20 plus years of experience, 7.09. The F value of 2.75 with an associated probability of .01 suggested that at least one difference among the means on Teaching Tasks might also be statistically significant. However, the Scheffé procedure did not produce any significant differences.

For Work Load, the F value of 3.58 with an associated probability of .00 indicated that there was a statistically significant difference among the means. The Scheffé procedure indicated that the mean for teachers with 6-10 years of experience, 10.68, was significantly higher than the means for teachers with 1 year of experience, 8.55, and 2 years of experience, 8.19. There were no significant differences among groups on Relationships with Students. However, on Job Security, the F value of 14.42 with an associated probability of .00 indicated that there was at least one significant difference among the means. The Scheffé procedure revealed that the mean for teachers with 2 years of experience, 10.79, was significantly higher than the means for teachers with 20 plus years of experience, 4.32, with 16-20 years of experience, 4.69, with 11-15 years of experience, 4.98, with 6-10 years of experience, 5.18, and with 3-5 years of experience, 6.28. The mean for teachers with 1 year of experience, 8.61, was significantly higher than the means for teachers with 6 or more years of experience, and the mean for teachers with 3-5 years of experience, 6.28, was significantly higher than the mean for teachers with 20 plus years of experience, 4.32. Thus, years of teaching experience produced statistically significant differences in means on 3 of the 5 organizational factors.

Years in Present School. Table 26 presents one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by the number of years they have been in their present school. This analysis produced statistically significant differences among means on all factors except Relationships with Students. With respect to Relationships with Colleagues, the F value of 4.40 with an associated probability of .00 indicated that there was at least one statistically significant difference among the means. The Scheffé procedure indicated that the means for teachers who had been in the school 2 years, 8.47, and 3-5 years, 8.30, were significantly higher than the mean for teachers who had been in the school for 1 year, 7.31. For Teaching Tasks, the F value of 4.79 with an associated probability of .00 suggested a statistically significant difference among the means. The Scheffé procedure revealed that the mean for teachers who had been in their present school for 3-5 years, 9.90, was significantly higher than the means for those who had been in their present school for 10 plus years, 8.71, or 1 year, 8.78. With respect to Work Load, the F value of 4.73 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure revealed that the means for teachers who had been in their present school for 2 years, 10.57, and 3-5 years, 10.49, were significantly higher than the means for teachers who had been in their school 10 plus years, 9.05, or 1 year, 9.31. Finally for Job Security, the F value of 23.21 with an associated probability of .00 suggested a fairly strong statistically significant difference among the means. The Scheffé procedure

Table 26

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Years in Present School

	1. 1 Year (N=214)		2. 2 Years (N=148)		3. 3-5 Years (N=275)		4. 6-10 Years (N=187)		5. 10 + Years (N=129)				Significance between groups
Factor	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	7.31	3.85	8.47	3.76	8.30	3.81	8.29	3.56	7.30	3.11	4.40	.00	2,1 3,1
Teaching Tasks	8.78	3.26	9.76	3.63	9.90	3.63	9.40	3.40	8.71	3.33	4.79	.00	3:5,1
Work Load	9.31	3.94	10.57	4.36	10.49	4.25	9.89	4.19	9.05	4.07	4.73	.00	2:5,1 3:5,1
Relationships with Students	9.42	3.80	10.22	4.27	9.89	4.02	9.95	3.96	9.30	3.65	1.51	.20	—
Job Security	7.20	5.95	7.41	5.33	5.05	4.38	4.05	3.63	3.66	3.30	23.21	.00	2:5,4,3 1:5,4,3

indicated that the means for teachers who had been in their present school for 2 years, 7.41, and 1 year, 7.20, were significantly higher than the means for teachers who had been in the school for 10 plus years, 3.66, for 6-10 years, 4.05, and for 3-5 years, 5.05.

Sub-Problem 3.4

"To what extent is teachers' organizational stress on the organizational factors associated with structural variables: present position, major grade level, major teaching assignment, and number of teachers in the school?"

As reported in Chapter 5, structural variables produced no significant differences in overall work-related stress. However, they did produce differences when the organizational factors were used as criterion variables.

Present Position. Table 27 presents the results of one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by their present position. For Relationships with Colleagues, the F value of 2.84 with an associated probability of .00 suggested that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the mean for administrators (part-time)/classroom teachers (part-time), 8.50, was significantly higher than the mean for classroom teachers (part-time), 6.42. For Teaching Tasks, the F value of 4.41 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the means for administrators (part-time)/classroom teachers (part-time), 9.83, and for classroom

Table 27

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Their Present Position

Factor	1. Classroom teacher (full-time) (N=753)		2. Administrator (full-time) (N=28)		3. Administrator (p.t.)/classroom teacher (p.t.) (N=107)		4. Classroom teacher (p.t.) (N=47)		5. Counsellor (f.t. or p.t.) (N=21)				Significance between groups
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	7.95	3.73	8.24	2.96	8.50	3.37	6.42	4.08	8.61	3.31	2.84	.02	3,4
Teaching Tasks	9.46	3.51	9.24	3.09	9.83	3.51	7.61	3.19	8.04	2.61	4.41	.00	3,1:4
Work Load	10.31	4.16	7.36	2.43	9.30	4.07	8.16	4.27	6.33	3.14	11.28	.00	1:5,2,4 3,5
Relationships with Students	10.09	3.99	7.82	2.30	8.77	3.53	8.57	4.42	9.10	3.37	5.98	.00	1:2,3
Job Security	5.89	5.01	2.50	2.07	3.51	3.36	5.97	5.37	5.24	5.36	8.50	.00	4:2,3 1:2,3

teachers (full-time), 9.46, were significantly higher than the mean for classroom teachers (part-time), 7.61. With respect to Work Load, the F value of 11.28 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The mean for classroom teachers (full-time) was significantly higher than the means for counsellors (full or part-time), 6.33, administrators (full-time), 7.36, and classroom teachers (part-time), 8.16. Also, the mean for administrators (part-time)/classroom teachers (part-time), 9.30, was significantly higher than the mean for counsellors, 6.33.

For Relationships with Students, the F value of 5.98 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the mean for classroom teachers (full-time), 10.09, was higher than the means for administrators (full-time), 7.82, and administrators (part-time)/classroom teachers (part-time), 8.77. Finally, with regard to Job Security, the F value of 8.50 with an associated probability of .00 indicated that there was a statistically significant difference among the means. The means for both classroom teachers (part-time), 5.97, and classroom teachers (full-time), 5.89, were significantly higher than the means for administrators (full-time), 2.50, or administrators (part-time)/classroom teachers (part-time), 3.51.

Major Grade Level. The results of one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by grade level are presented in Table 28. With respect to Relationships with Colleagues, the F value of 4.29 with an associated

Table 28

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Grade Level

Factor	1. Early Childhood/ Elementary (N=495)		2. Junior High (N=252)		3. Senior High (N=208)				Significance between groups
	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	7.68	3.49	8.03	3.79	8.56	4.01	4.29	.01	3,1
Teaching Tasks	9.94	3.05	8.96	3.38	8.54	3.33	14.75	.00	1:3,2
Work Load	10.44	4.09	9.97	4.32	8.64	4.02	13.96	.00	1,2:3
Relationships with Students	9.58	3.93	10.18	4.01	9.78	3.93	1.91	.15	—
Job Security	6.03	5.03	5.21	4.99	4.65	4.32	6.48	.00	1:3,2

probability of .01 suggested that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the mean for senior high teachers, 8.56, was significantly higher than the mean for early childhood/elementary teachers, 7.68. On Teaching Tasks, the F value of 14.75 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The mean for early childhood/elementary teachers, 9.94, was significantly higher than the means for senior high, 8.54, or junior high, 8.96, teachers. On Work Load, the F value of 13.96 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The Scheffé procedure indicated that the means for early childhood/elementary, 10.44, and junior high, 9.97, teachers were significantly higher than the mean for senior high teachers, 8.64. There were no statistically significant differences between grade levels on Relationships with Students. However, for Job Security, the F value of 6.48 with an associated probability of .00 indicated that at least one difference among the means was again statistically significant. The mean for early childhood/elementary teachers, 6.03, was significantly higher than the means for senior high, 4.65, and junior high, 5.21, teachers. Thus, early childhood/elementary teachers seem to experience greater stress on Teaching Tasks and Job Security than did senior high or junior high teachers. Both early childhood/elementary and junior high teachers experienced more stress on Work Load, and senior high teachers experienced greater stress on Relationships with Colleagues than did elementary teachers.

Major Teaching Assignment. Table 29 contains the results of a one-way analysis of variance of organizational stress on the 5 organizational factors among teachers classified by major teaching assignment. There were statistically significant differences on only two factors. For Teaching Tasks (an F value of 4.21 and associated probability of .00), the Scheffé procedure indicated that the mean for elementary/early childhood specialists, 10.09, was significantly higher than the mean for practical arts specialists, 7.76. With regard to Work Load, the F value of 6.24 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The mean for reading specialists, 11.35, was significantly higher than the mean for counselling specialists, 6.28; the mean for elementary/early childhood specialists, 10.85, was significantly higher than the means for counselling specialists, 6.28, practical arts specialists, 8.58, and resource room/special education specialists, 8.61; and the means for second language specialists, 10.75, and core subject specialists, 9.90, were significantly higher than the mean for counselling specialists, 6.28.

Number of Teachers in School. School size produced a difference on three factors. The results of one-way analysis of variance are presented in Table 30. There were no significant differences on Relationships with Colleagues. For Teaching Tasks, the F value of 4.43 with an associated probability of .00 indicated that at least one difference among the means was statistically significant. The means for teachers in schools of 10 or fewer, 9.80, and 11-20, 9.66, were significantly higher than the mean for teachers in schools of 41 or more teachers, 8.38. With regard to Work Load (an F value of

Table 29

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Major Teaching Assignment

	1. Core: English/ Social Studies/ Math/ Science (N=262)		2. Second Language (N=73)		3. Fine Arts (N=34)		4. Elementary/ Early Childhood (N=292)		5. Practical Arts (N=77)		6. Physical Education (N=32)		7. Counselling (N=23)		8. Resource Room/ Special Ed. (N=78)		9. Administration (N=25)		10. Reading (N=32)		11. Religious Studies (N=25)				Significance between groups
Factor	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	8.54	3.89	7.80	3.85	7.94	3.12	7.75	3.36	6.82	3.84	7.94	3.64	8.47	3.24	7.07	3.48	8.84	3.65	8.95	5.15	8.44	3.38	2.42	.01	—
Teaching Tasks	9.15	3.43	9.49	3.45	9.17	3.11	10.09	3.41	7.76	3.49	8.81	3.51	8.22	2.57	9.74	3.46	10.32	3.88	10.39	3.91	9.66	3.35	4.21	.00	4,5
Work Load	9.90	4.18	10.75	4.09	9.44	3.55	10.85	3.93	8.58	4.73	8.73	4.16	6.28	3.02	8.61	3.97	9.44	3.88	11.35	4.77	8.72	3.60	6.24	.00	10,7 4:7,5,8 2,7 1,7
Relationships with Students	10.16	3.93	10.22	3.62	10.26	4.00	9.73	3.98	9.22	4.62	9.29	3.32	9.21	3.41	9.20	3.89	8.80	3.31	9.82	4.95	9.56	2.79	0.98	.46	—
Job Security	5.30	4.61	4.40	4.07	6.04	6.83	6.23	5.04	4.35	3.95	5.84	4.57	5.41	5.24	5.69	5.09	4.40	4.00	6.97	6.65	3.72	3.48	2.33	.01	—

Table 30

One-Way Analysis of Variance of Organizational Stress on the Five Organizational Factors among Teachers Classified by Number of Teachers in School

Factor	1. 10 or fewer teachers (N=160)		2. 11–20 teachers (N=344)		3. 21–30 teachers (N=186)		4. 31–40 teachers (N=118)		5. 41 or more teachers (N=145)				Significance between groups
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F	p	
Relationships with Colleagues	7.77	3.52	7.94	3.71	7.99	3.46	8.44	4.19	7.78	3.81	0.68	.61	—
Teaching Tasks	9.80	3.36	9.66	3.58	9.41	3.50	9.05	3.39	8.38	3.35	4.43	.00	1,2:5
Work Load	10.39	3.99	10.63	4.17	9.80	4.23	9.48	4.25	8.20	3.88	9.79	.00	2,1,3:5
Relationships with Students	9.14	4.13	9.89	3.90	9.69	3.79	10.59	4.18	9.39	3.84	2.04	.09	—
Job Security	5.78	5.29	6.09	4.92	5.23	4.91	5.09	4.73	4.46	4.32	3.41	.01	2,5

9.79 with associated probability of .00), the Scheffé procedure indicated that the means for teachers in schools of 11-20, 10.63, 10 or fewer, 10.39, and 21-30, 9.80, teachers were all significantly higher than the mean for teachers in schools of 41 or more teachers, 8.20. School size produced no significant differences on Relationships with Students. Finally, for Job Security, the F value of 3.41 with an associated probability of .01 suggested there was at least one statistically significant difference among the means. The Scheffé procedure indicated that the mean for teachers in schools of 11-20 teachers, 6.09, was significantly higher than the mean for teachers in schools of 41 or more teachers, 4.46.

PROBLEM 4: FURTHER ANALYSIS OF THE STRESS OF RESPONDENTS

Sub-Problem 4.1

"What differences in personal, professional and structural variables exist between respondents who indicated work-related physical illness and those who indicated no work-related physical illness?"

Years of teacher experience and major teaching assignment were the only individual variables that produced a significant relationship.

Years of Teaching Experience. The relation between work-related physical illness and years of teaching experience was tested using the chi square statistic and is reported in Table 31. The chi square of 14.52 with 6 degrees of freedom was significant beyond the .02 level. The contingency coefficient of .12 indicated the

Table 31

Relation between Work-Related Physical Illness and Years of Teaching Experience of Respondents

Teaching Experience	Illness Number	Illness Percent	No Illness Number	No Illness Percent
1 year	9	18.0	41	82.0
2 years	13	37.1	22	62.9
3-5 years	63	44.1	80	55.9
6-10 years	82	33.6	162	66.4
11-15 years	84	38.9	132	61.1
16-20 years	38	30.6	86	69.4
21 or more years	53	39.0	83	61.0

Chi Square = 14.52 Degrees of Freedom = 6 p = .02
C = .12

relationship tended to be weak. However, the percentage of teachers with 3-5 years of experience who reported physical illness was more than twice the percentage of teachers with 1 year of experience.

Major Teaching Assignment. Table 32 summarizes the relation between work-related physical illness and major teaching assignment. The chi square of 18.30 with 10 degrees of freedom was significant beyond the .05 level. Once again, the contingency coefficient of .14 indicated the relationship was reasonably weak. However, a substantial number of teachers of core subjects (math/science/English/social studies), 44 percent, indicated they had experienced work-related physical illness.

Sub-Problem 4.2

"What differences in personal, professional and structural variables exist between respondents who indicated personal life stress and those who indicated no personal life stress?"

The only individual variable that produced a significant relationship related to this problem was sex, as reported in Table 33. The chi square of 5.02 with 1 degree of freedom was significant beyond the .03 level. A larger percentage of males, 56.1 percent, than females, 48.4 percent, reported that they had experienced a number of stressful events in their personal lives during the past two years.

Sub-Problem 4.3

"What differences in personal, professional and structural variables exist between respondents who indicated that they planned to stay in the profession, those who were undecided, and those who planned

Table 32

Relation between Work-Related Physical Illness and Major Teaching Assignment of Respondents

Assignment	Illness Number	Illness Percent	No Illness Number	No Illness Percent
Math/Science/English/Social Studies	114	44.0	145	56.0
Second Language	17	23.3	56	76.7
Fine Arts	13	39.4	20	60.6
Early Childhood/Elementary	103	35.5	187	64.5
Practical Arts	30	39.0	47	61.0
Physical Education	8	25.0	24	75.0
Counselling	9	39.1	14	60.9
Resource Room/Special Education	23	29.5	55	70.5
Administration	6	24.0	19	76.0
Reading	12	37.5	20	62.5
Religious Studies	7	28.0	18	72.0

Chi Square = 18.30 Degrees of Freedom = 10 $p = .05$

$C = .14$

Table 33

Relation between Personal Life Stress Experienced and Sex of Respondents

Group	Personal Life Stress		No Personal Life Stress	
	Number	Percent	Number	Percent
Males	213	56.1	167	43.9
Females	274	48.4	292	51.6

Chi Square = 5.02   Degrees of Freedom = 1   p = .03

Phi = .08

to leave?"

Sex. Table 34 reports the relation between commitment to the profession and sex of the respondents. The chi square of 10.70 with 2 degrees of freedom was significant beyond the .01 level. A higher percentage of females than males planned to pursue a career in education until their normal retirement age.

Age. The relation between commitment to the profession and age of the respondents is summarized in Table 35. The chi square of 74.74 with 14 degrees of freedom was significant beyond the .00 level. The contingency coefficent of .27 indicated the relationship was moderate. Those teachers in the 25-29 and 30-34 age groups were more likely to leave the profession.

Years of Education for Salary Purposes. There was no significant relationship between this variable and commitment to the profession.

Years of Teaching Experience. The relation between commitment to the teaching profession and years of teaching experience is reported in Table 36. The chi square of 90.95 with 12 degrees of freedom was significant beyond the .00 level. The contingency coefficient of .30 indicated the relationship was moderately strong. Those teachers with 2-10 years of experience were more likely to leave the profession.

Years in Present School. Table 37 summarizes the relation between commitment to the profession and respondents' years in present school. The chi square of 19.85 with 8 degrees of freedom was significant beyond the .01 level; however, the contingency coefficient of .14 indicated the relationship was relatively weak. Teachers who have been in their present school 2 or 1 years were more likely to be

Table 34

Relation between Commitment to the Profession and Sex of the Respondents

Group	Staying		Undecided		Leaving	
	Number	Percent	Number	Percent	Number	Percent
Males	205	53.7	44	11.5	133	34.8
Females	350	61.4	35	6.1	185	32.5

Chi Square = 10.70　　Degrees of Freedom = 2　　p = .01

C = .11

Table 35

Relation between Commitment to the Profession and Age of Respondents

Age Group	Staying		Undecided		Leaving	
	Number	Percent	Number	Percent	Number	Percent
20–24	28	54.9	2	3.9	21	41.2
25–29	88	45.8	16	8.3	88	45.8
30–34	104	47.1	32	14.5	85	38.5
35–39	92	59.4	20	12.9	43	27.7
40–44	91	68.9	4	3.0	37	28.0
45–49	53	67.9	4	5.1	21	26.9
50–54	43	78.2	1	1.8	11	20.0
55 and over	53	81.5	0	.0	12	18.5

Chi Square = 74.74 Degrees of Freedom = 14 p = .00

C = .27

Table 36

Relation between Commitment to the Profession and Years of Teaching Experience of Respondents

Teaching Experience	Staying		Undecided		Leaving	
	Number	Percent	Number	Percent	Number	Percent
1 year	32	64.0	5	10.0	13	26.0
2 years	13	37.1	1	2.9	21	60.0
3-5 years	68	47.2	8	5.6	68	47.2
6-10 years	112	45.9	38	15.6	94	38.5
11-15 years	131	60.4	18	31.3	68	31.3
16-20 years	86	69.4	8	6.5	30	24.2
21 or more years	114	82.6	1	0.7	23	16.7

Chi Square = 90.95 Degrees of Freedom = 12 p = .00

C = .30

Table 37

Relation between Commitment to the Profession and Respondents' Years in Present School

Years in Present School	Staying		Undecided		Leaving	
	Number	Percent	Number	Percent	Number	Percent
1 year	113	52.8	22	10.3	79	36.9
2 years	72	48.6	15	10.1	61	41.2
3-5 years	167	60.9	15	5.5	92	33.6
6-10 years	112	60.2	18	9.7	56	30.1
11 or more years	90	69.8	9	7.0	30	23.3

Chi Square = 19.85 Degrees of Freedom = 8 p = .01

C = .14

planning to leave the profession.

Present Position. There was no significant relationship between this variable and commitment to the profession.

Major Grade Level. The relation between commitment to the profession and major grade level at which respondents' work is summarized in Table 38. The chi square of 38.83 with 4 degrees of freedom was significant beyond the .00 level. The contingency coefficient of .19 indicated the relationship was moderate. Both senior high and junior high teachers were less likely to pursue a career in education until normal retirement age than elementary teachers.

The other structural variables, major teaching assignment and number of teachers in school, were not related significantly to commitment to the profession.

SUMMARY

Problem 3 dealt with stress factors. The organizational stress scores (frequency x stress) were computed for each of the 67 organizational items. These were then factor analyzed, a 5 factor solution providing the greatest degree of meaning. Factor scores on the 5 factors (Relationships with Colleagues, Teaching Tasks, Work Load, Relationships with Students, and Job Security) were then computed and compared with the individual variables to determine if there were any significant differences among groups.

Females reported significantly greater stress than males on three organizational factors: Teaching Tasks, Work Load and Job

Table 38

Relation between Commitment to the Profession and Major Grade Level at Which Respondents Work

Grade Level	Staying		Undecided		Leaving	
	Number	Percent	Number	Percent	Number	Percent
Early Childhood/Elementary	331	66.9	29	5.9	135	27.3
Junior High	117	46.4	34	13.5	101	40.1
Senior High	108	52.4	16	7.8	82	39.8

Chi Square = 38.83   Degrees of Freedom = 4   p = .00

C = .19

Security. Teachers in the 30-39 age group reported significantly greater stress on Relationships with Colleagues; those in the 25-39 age group rated highest on Teaching Tasks; those in the 25-34 age group rated highest on Work Load; and those in the 20-24 age group reported the most stress related to Job Security. Teachers who reported that they had experienced work-related physical illness scored higher on all 5 factors. Those who reported personal life stress reported significantly greater stress on Relationships with Students. Teachers who did not plan to pursue a career in education until their normal retirement age scored higher on all factors except Teaching Tasks. Teachers with 4 years of education for salary purposes reported more stress on Job Security than those with more education. Teachers with 6-15 years of teaching experience reported more stress on Relationships with Colleagues; those with 6-10 years of experience reported more stress on Work Load; and those with 1-2 years of experience reported more stress on Job Security. Regarding years in present school, those who had been in the school 2-5 years experienced more stress on Relationships with Colleagues and Work Load; those who had been in the school 3-5 years scored higher on Teaching Tasks; and those who had been in the school 1-2 years scored higher on Job Security. Part-time classroom teachers scored lowest on all factors except Job Security for which they were highest. Senior high teachers reported significantly greater stress on Relationships with Colleagues; early childhood/elementary teachers were higher on Teaching Tasks and Job Security; and both early childhood/elementary and junior high teachers experienced more stress on Work Load. Major teaching assignment, on the other hand, produced significant differences on 2 factors:

Teaching Tasks and Work Load. Finally, respondents in schools of 41 or more teachers reported less stress on 3 factors: Teaching Tasks, Work Load, and Job Security.

Problem 4 dealt with a further analysis of the personal variables, work-related physical illness, personal life stress and commitment to the profession. Teachers with 3-5 years of experience and teachers of the core subjects reported more physical illness. A greater percentage of males than females reported personal life stress. Finally, males, teachers in the 25-39 age group, teachers with 2-10 years of experience, teachers who have been in their present school for 1-2 years, and teachers of senior and junior high were least likely to pursue a career in education until their normal retirement age.

CHAPTER 7

ANALYSIS OF THE DATA: COMMITMENT TO THE PROFESSION AND SOURCES OF STRESS IDENTIFIED BY TEACHERS

Chapters 4 to 6 presented the data generated by the questionnaire items. Chapter 7 presents an analysis of the open-ended responses and deals with Problems 5 and 6. Problem 5 sought to analyze respondents' commitment to the profession and to determine if teachers were planning to leave the profession for stress-related reasons. Problem 6 sought to analyze sources of stress personally identified by the respondents to determine if there were significant sources of stress not included in the questionnaire items. The data analysis of each of the problems is followed by a discussion which includes selected comments from the respondents.

PROBLEM 5: COMMITMENT TO THE PROFESSION

Writers vary in their suggestions for coping with stress. In general, individuals appear to have four options: avoidance or withdrawal, personal adjustment, situational adjustment, or denial. Thus, individuals who are experiencing high levels of stress in their work environment may decide that the only option they have for coping is to pursue another line of work. One outcome measure or response correlate that has been used in a number of studies of stress is propensity or intention to leave (Lyons, 1971; Kyriacou and Sutcliffe, 1979a). As already reported in Chapter 5, propensity to leave the profession was positively correlated with teachers' overall work-related stress. It was also significantly associated with stress reported on all of the organizational factors except Teaching Tasks (Chapter 6). Problem 5 investigated directly teachers' perceptions about their commitment to the profession.

Sub-Problem 5.1

"What reasons do respondents give for planning to leave the profession prior to normal retirement age?"

Of the 318 respondents who indicated that they did not plan to pursue a career in education until normal retirement age, 288 gave reasons for planning to leave. These are summarized in Table 39. Reasons related specifically to too much stress were given by 70 of the teachers. Desire for early retirement was mentioned by 21 teachers. Need for a career change was referred to by 54 teachers while concern about lack of rewards and incentive was expressed by 39 teachers. Thirty females indicated they would be leaving the profession to raise a family. Eight teachers planned to leave because they lacked job security. Reasons related to student behavior were mentioned by 19 teachers; need for breaks and renewal was mentioned by 19 teachers; and work overload was mentioned by 9 teachers. The remaining 19 teachers gave reasons that fell into a general category.

Sub-Problem 5.2

"What reasons do respondents give for being undecided about pursuing a career in education until normal retirement age?"

Of the 79 respondents who indicated that they were undecided

Table 39

Summary of Responses Identifying Reasons for Leaving the Profession
(N=288)

Reason	N	%
Too Much Stress	70	24.3
Early Retirement	21	7.3
Career Change	54	18.8
Lack of Rewards, Incentive	39	13.5
To Raise a Family	30	10.4
Lack of Job Security	8	2.8
Student Behavior	19	6.6
Need for Breaks, Renewal	19	6.6
Work Overload	9	3.1
General	19	6.6

about pursuing a career in education until normal retirement age, 52 gave reasons for their indecision. These are summarized in Table 40. Eighteen teachers indicated that their indecision was directly related to the stress they were experiencing. Four teachers attributed their indecision to family commitments. Concern about what the future might bring in education was expressed by 13 teachers while 17 teachers indicated that they were undecided because they were seeking alternatives.

Sub-Problem 5.3

"What qualifications do respondents who plan to pursue a career in education until their normal retirement age place on their commitment?"

Of the 558 respondents who indicated that they planned to pursue a career in education until their normal retirement age, 26 qualified their "yes" responses. These are summarized in Table 41. Two teachers expressed concern about finances while seven teachers indicated they planned to remain in education but not as classroom teachers. Ability to cope with working conditions was mentioned by 7 teachers; the possibility of looking at alternatives was mentioned by 4 teachers; and family commitments were mentioned as a consideration by 2 teachers. In addition, 4 teachers indicated that they planned to pursue a career in education until normal retirement age because they loved teaching.

Discussion

An overwhelming majority of the teachers who indicated they did

Table 40

Summary of Responses Identifying Reasons for Being Undecided about Pursuing a Career in Education

(N=52)

Reason	N	%
Stress	18	34.6
Family Commitments	4	7.7
Future in Education	13	25.0
Alternatives	17	32.7

Table 41

Summary of Qualifications Stipulated by Respondents Who Plan to Pursue a Career in Education

(N=26)

Qualification	N	%
Finances	2	7.7
Classroom Teaching	7	27.0
Working Conditions	7	27.0
Alternatives	4	15.3
Family Commitments	2	7.7
Love of Work	4	15.3

not plan to pursue a career in education until normal retirement age, or who indicated that they were undecided, gave what could be regarded as stress-related reasons for their answers. Some teachers were concerned about the effect that stress was having on their physical and mental health. Nerves, headaches, ulcers and high blood pressure were mentioned. Others speculated that they would not live long enough to retire. Typical of their comments were the following:

A male junior high teacher:

> "I want to keep my sanity. Life is too short to have all this stress. The situation is getting worse instead of better. My resilience is wearing down."

A male elementary teacher, administrator part-time:

> "I really don't think I can continue without experiencing some serious health defects resulting from the stress of this job. I would like an alternative line of work long before my health gives out. I wish to enjoy old age rather than bear it."

A male elementary teacher, administrator part-time:

> "Unless I can control my stress, I won't live long enough to retire from an education career."

A male junior high teacher:

> "Teaching requires many qualities, energies and commitments on the part of a teacher. Patience, understanding, and growth in abilities with training are also necessary for continued motivation and dedication to your work. Attitudes toward work and school, respect for others, and consideration of persons and property are diminishing among many students today. I cannot foresee my retaining what I think is necessary to do a good job in teaching in the future. If I lose my positive attitude, motivation and dedication toward my job, I will seek other employment. I would estimate 5 to 8 more years of teaching, if I am to keep my sanity."

A male senior high teacher:

> "If I continue to care and be concerned about the true educational process in the present political conditions, I'll burn out or die of a heart attack before I'm forty-five. And I can't not care!"

Some teachers indicated that they were experiencing symptoms of burn-out. Mention was made of loss of caring and commitment, declining energy, constant tiredness, lessening of enthusiasm, inner exhaustion, and difficulty in coping with pressures. Lack of rewards, support, recognition and appreciation were often mentioned as contributing factors. Typical of their comments were the following:

A female senior high teacher:

> "I can't see myself having the physical or inner energy necessary to cope with the stress demands of the bureaucracy and the growing stress young people put on teachers. By May, I am exhausted 'inside'."

A female elementary teacher:

> "I feel my usefulness and effectiveness as a teacher is declining the longer I am in the profession. I have less patience and the expectations of the community are becoming more demanding. Also, for my own personal growth, I want to have more than one work experience. Many feel children have been the same for centuries, but in my 13 years teaching, I've found that they are getting far more difficult to handle. This is in part due to the sociological changes in our society -- working mothers, single parent families, etc. They seem insecure, demanding of attention and with the large classes we face these days, some 'teaching' amounts purely to crowd control. It's so hard to meet individual needs and yet it is expected of us."

A male junior high teacher:

> "I don't think I'll have the energy when I'm older. I often feel burned out already. Also, unless students become more motivated and better disciplined, I do not feel I am doing the job I was trained for -- teaching and not babysitting. A majority of my time is spent in behavior modification."

A male senior high teacher, administrator part-time:

> "Absolutely no way I desire to spend 30-35 years in this career. The stress, financial reward, public expectations with not an ounce of support suggests that I may leave as soon as possible."

A female junior high teacher:

> "Too much stress if you want to do a half decent job. The only way to survive in teaching so that you have a bit left of yourself for your family and spouse, is to cut corners, short-change the students, inadequate evaluation, poorer program planning. This turns students off and you get more deviant behavior. The government may be better off to improve teaching conditions in junior high and save money on the police force end of things."

Many of the teachers who mentioned early retirement as their reason for leaving indicated that it was a coping mechanism for the stress they were experiencing. Some planned to retire while they were still healthy; others felt the work load gave them little time left for personal pursuits; still others referred to the inadequacy of the current retirement plan. Typical of their comments were the following:

A male elementary teacher:

> "It may sound funny, but I intend to retire while I'm still alive and healthy to pursue another career."

A female senior high teacher:

> "I intend to retire early, largely because I don't think I'll last that long. I'm the kind of person who really gets involved in what I am doing, so burn-out is becoming a problem. There is no help given to teachers (as far as I know) to help them deal with stress."

A male senior high teacher:

> "If 35 years experience stays as full retirement requirement, no one can 'take it' and still care for the student. Teaching equals

> good hours, fair pay if I just 'complete my tasks.' To be a good all-round teacher and dedicated to students, we need less stress and more pay."

A male elementary teacher, administrator part-time:

> "Would like to take an early retirement if at all possible — hopefully after 30 years of teaching on FULL PENSION."

Career change was another stress-related reason for many of the respondents. Several teachers spoke of businesses of their own where they would have control of their own destinies. Others indicated a need for change and new challenges. Several teachers also indicated that they would like to pursue other areas of employment where there was less stress and the rewards were greater. A few of the comments were as follows:

A male junior high teacher:

> "I just hope to God that I have enough self-confidence to try something else when I'm forty, unless I like teaching more then than I do now."

A male senior high teacher:

> "I want to start to expand my business in manufacturing. 'Incentive-based' pay is the key here with a definite end product -- two things not present in the educational system."

A male elementary teacher, administrator part-time:

> "If the right business opportunity came along I would quit tomorrow. I would very much like to be master of my own destiny. I'm tired of disciplining children."

A female elementary teacher:

> "I would like to try my hand at something else; I would like a job that doesn't have to come home with you at night."

The comments regarding lack of rewards and incentive also reflected stress. Teachers mentioned the thankless nature of the job, criticism from the public, lack of room for personal initiative, lack of job satisifaction and positive feedback, the increasing demands placed on teachers, lack of meaningful participation in decision-making, and lack of career progression and opportunity for advancement. Many teachers planned to leave the profession because they felt the monetary rewards were not commensurate with the effort expended. Some of the comments reflecting these viewpoints were as follows:

A male senior high teacher:

> "The demands and expectations of a teacher are much too great. The respect for the role of a teacher has diminished too much. We are a very valuable resource to the community but we are unappreciated for our efforts. This is a very thankless job!"

A male senior high teacher:

> "The job does not allow for initiative, innovation and free-thinking. Too many people are determined to preserve the status-quo. The school board is advocating studies and techniques identical to those 15 years ago. It's time personal desires and interests were allowed."

A male junior high teacher:

> "Lack of job satisfaction: structure too rigid and frustrating (little opportunity for innovation), teacher workload increasing, declining enrolments (constant new preparations), lack of resources, apparently low priority of education by government and society in general, opportunity for advancement declining."

A female elementary teacher:

> "Teaching has become too, too demanding in every respect, especially in the expectations of parents, central office, etc. And, for the money I'm making, it is not worth it. I believe in doing a good job, but I'd like support and the salary to go with the dedication. I have asked twice for sabbatical leaves, since I

> cannot afford to take a year to study on my own — but to no avail! Children have become very difficult to teach; I feel they expect to be entertained as they are by T.V. It is very difficult to ask children to work, when they generally come from very permissive homes and where parents question the teacher, not the child. We need 100% parental support."

A male junior high teacher, administrator full-time:

> "Administrators in schools are caught in the middle; allowance is incompatible with stress; 'backstabbing' among administrative 'colleagues'; personal philosophy of education unable to be implemented due to results of 'balancing the budget' by the board."

Even the comments of a number of the females who indicated that they planned to leave education to raise a family reflected stress. Typical of the comments were:

A female elementary teacher:

> "I am leaving to have my children. However, I will be retraining myself as I find the job too demanding, rewards too few to warrant continuing. I find my personal life suffers because of my job."

A female junior high teacher:

> "I don't feel that I could do an adequate job of being a mother and housekeeper and teacher. Something would suffer. Some can do both, but I'm sure I couldn't."

The concerns of teachers who referred to lack of job security were mainly with the stress of temporary contracts and improper placements, while those who referred to student behavior planned to leave because of stress related to lack of student discipline, students with personal problems, lack of student motivation, and poor student attitudes both towards teachers and school. Some of the comments were as follows:

A male elementary teacher:

> "I enjoy teaching but the one thing that 'kills me' is the behavior of 'some students' and the effort one has to take to discipline them. I feel that coercion and punitive measures could be stricter in the school system. Our present principals have no backbone when it comes to carrying out a necessary punishment."

A female elementary teacher:

> "I have some 25 odd years until retirement. I can't visualize myself spending three-quarters of my day disciplining students and attempting to motivate students who virtually DO NOTHING. There must be some other job with better working conditions; i.e., that is less stressful."

A female elementary teacher:

> "I don't think that teachers should have to discipline as much as we do. We spend so much time straightening out children's personal home problems, health problems, emotional problems or mental difficulties that teaching is not the first in the duties of the day."

A male senior high teacher:

> "Things have to change. Students are being employed too young. They are working and that is where their interests are — they come to school not to learn, but 'to rest'. I want the public to support us more; the teachers have to have more say. Right now, it's not worth it."

A male junior high teacher:

> "The main problem which appears to be irreconcilable by way of policy is in the attendance and behavior areas. Students who are oftentimes absent are not around to develop at a 'normal' rate regarding behavior in the schools. The Winnifred Stewart school immediately sends unruly students home, or in a taxi to the parents or guardians at their places of work. This has been their policy for five years. On an inservice day I visited every one of their classrooms and work areas, and discerned no classroom interruptions nor any unruly behavior. The principal attests to the fact that there are seldom any problems involving student behavior because the students don't wish to have to account for themselves to their parents or guardians. I think that this is a good policy."

Teachers who were planning to leave because of need for breaks and renewal expressed a desire for change to offset stress and boredom, need for different challenges, fear of stagnation, and need for personal growth and enrichment. Those who commented on work overload mentioned preparations and corrections after school and weekends, lack of time for relaxation, large classes, split-grades, lack of preparation time, too much work, excessive demands, and additional responsibilities. The comments of a general nature covered a wide range of topics, some of which included staff involvement in extra-curricular activities, perceived lack of support from female teachers to fight for higher wages, lack of central office support, lack of financial support for programs, difficulties in meeting student needs, policy-makers who are removed from the dynamics of the classroom, and various frustrations related to working conditions. Some typical statements were:

A male junior high teacher, administrator part-time:

> "To reaffirm: the wide range of staff involvement in curricular and extra-curricular activities causes a good deal of stress. There are the 'lifters' and the 'leaners' and the 'lifters' are burning out. Equally shared it would be good for staff — sharing cooperative group — students and community."

A male senior high teacher:

> The most difficult and thereby the most stressful 'thing' for me to accept is what I would call the nearly total absence of honesty in the realm of education on the parts of administrators, boards, and government departments. It's a GAME! Money — dollars and cents are more important than true education. We operate a giant babysitting institution. There is no emphasis on excellence in academic achievement! Government does not control medicine! But in education, it is, to me, obvious that 'the blind lead the lame.' Both government and the public at large seem to mistrust classroom teachers (whose considered opinions hardly ever prevail.) Education: from 'e-ducere' (Lat.) = leading out of (ignorance); but that is not what administrators, boards and

> government departments are concerned with; for them it is always a political game, ruled by the Iron Law of Oligarchy — self-preservation.
>
> If these brief remarks are properly contemplated and then understood, it should be possible to appreciate that this kind of awareness, this kind of constant experience, can be, and is, the source of tremendous stress, leading to a very deep-seated frustration."

A male elementary teacher, administrator part-time:

> "The decisions based on economics rather than human needs and welfare can only become more prevalent given dropping enrolment and the present teacher-school board-government structure. This can only lead to further deterioration in working conditions and goal achievement."

A male senior high teacher:

> "Educational management and administration, both in central office and at the school level. We are not responding/adapting to a changing world. I anticipate that further administrative incompetence in the implementation and formulation of unrealistic policies, etc. will aggravate the classroom situation. I'm getting tired of the B.S., not of teaching. I doubt that I will stay."

A female junior high teacher:

> "Incompetent administrators: depressed and depressing teachers who complain about teaching and children; and the fact that people ask why I'm happy or smiling! Poor communication between administration and staff and little recourse for disagreement between same."

In summary, respondents who indicated a propensity to leave the profession generally gave stress-related reasons. Their personal perceptions tended to substantiate the correlations reported in Chapters 5 and 6.

PROBLEM 6: SOURCES OF STRESS IDENTIFIED BY TEACHERS

"What organizational items do teachers personally identify as being sources of work-related stress?"

Questionnaire respondents were requested to elaborate on any major sources of stress in their work that they had been unable to identify by completing the questionnaire items. The main purpose was to determine if there were any major sources of stress that were not encompassed by the 67 organizational items. Another purpose was to determine the extent to which teachers' perceptions of sources of stress encompassed sources of stress identified in the review of the literature. A summary of the responses of 345 teachers is presented in Table 42. Many of the comments were very lengthy and comprehensive; however, they were classified according to major theme. Most of the comments were related to sources of stress already covered by the 67 items, but respondents provided more specific details.

Relationships with Colleagues

Relationships with colleagues were of concern to 89 teachers. Seven teachers mentioned lack of support from central office and frustrations in dealing with the bureaucracy. Three teachers commented on promotion policies and the "shabby treatment" they felt they had received. Another 30 teachers focused on lack of support, communication and leadership from administrators. Aspects of the teachers' professional association were identified as sources of stress by 4 teachers. Working with incompetents was mentioned by 10 teachers. Finally, stresses which arose from relations with other teachers were

Table 42

Summary of Individual Responses Identifying Sources of Stress

(N=345)

Source	N
Relationships with Colleagues	
Central Office	7
Promotion Policies	3
Administration	30
Professional Association	4
Teacher Competency	10
Teacher Relations	28
Teaching Tasks	
Accommodating Special Students	7
Curriculum	11
Increasing Roles	5
Early Childhood Program	5
Bilingual Programs	5
Other Selected Program Areas	6
Evaluation	5
Supervision	3
Miscellaneous	12
Workload	
Declining Enrolment	6
Facilities	10
Work Environment	10
Time	28
Large Class Size	6
Split-Grades	6
Breaks, Interruptions	4
Inservice, Upgrading	4
Relationships with Students	
Discipline	13
Student Problems, Attitudes	23
Miscellaneous	10

Table 42 (continued)

Source	N
Job Security	
Temporary Contracts	11
Placements	5
Catholicity Criteria	5
Other	
Lack of Rewards	10
Societal Expectations, Attitudes	14
Professionalism	3
Comments Regarding the Questionnaire	19
General Comments about Stress	10

described by 28 teachers.

Teaching Tasks

Various teaching tasks were discussed by 59 teachers. Seven teachers mentioned the stresses of accommodating special students who have learning disabilities or who are emotionally disturbed. Curriculum problems such as constant change, complexity, or status of the subject were identified as sources of stress by 11 teachers. Increasing roles and having to assume more parental responsibilities were mentioned by 5 teachers. The special stresses experienced by teachers of the early childhood program in dealing with the Department of Education and parents were discussed by 5 teachers. The demands of functioning in a bilingual program were also mentioned by 5 teachers. Another 6 teachers mentioned stresses associated with program areas such as band and physical education. Student and teacher evaluation was discussed by 5 teachers. Recess or noon hour supervision was singled out as a source of stress by 3 teachers. Finally, miscellaneous comments by 12 teachers focused on too many jobs to do at once with others dependent on their completion, the lack of humanness in a large institution, preparing and conducting inservices, and identifying personnel during times of cuts in staff.

Work Load

Items related to work load were discussed by 74 teachers. Declining enrolment was cited as a source of stress by six teachers who spoke of extra preparations, changing assignments and increased load in order to maintain programs and extra-curricular activities. Inadequate facilities in staffrooms, labs, work areas and portables were identified as sources of stress by 10 teachers. Routine, noise, lack of cleanliness and lack of windows were examples of sources of stress in the work environment mentioned by 10 teachers. Time for administrative duties, lack of preparation time especially for elementary teachers, and time pressures in other areas were discussed by 28 teachers. The stresses of large class sizes were mentioned by 6 teachers; split-grades were a source of stress identified by 6 teachers. Finally, lack of breaks, interruptions, inservices and lack of time for upgrading were mentioned by another 8 teachers.

Relationships with Students

Relationships with students were a source of stress mentioned by 46 teachers. Thirteen teachers specifically discussed discipline problems. Another 23 teachers cited student problems and attitudes: items such as personality problems, terminal illness, learning disabilities, lack of motivation and effort, and negative attitudes. Finally, 10 teachers commented on miscellaneous problems with students such as hetereogeneous grouping, drug and alcohol use and absenteeism.

Job Security

Twenty-one teachers cited aspects of job security as major sources of stress. For 11 teachers the concern was the stress of temporary contracts and not knowing from year to year whether they would have employment the following September. Five other teachers identified placements (at the opposite end of the city from where they live and in program areas they would prefer not to teach) as sources of stress. Finally, 5 teachers mentioned aspects of the school district's Catholicity criteria that were sources of concern for them.

Other

Fifty-six teachers identified sources of stress that were classified in the general category of "other". Ten teachers commented on lack of rewards. Stresses included lack of positive feedback and recognition for hard work, lack of adequate remuneration, lack of tangible results, lack of promotion, and lack of job satisfaction. Fourteen teachers expressed concern about societal expectations and attitudes. Another 3 teachers were worried about declining professionalism. Nineteen teachers commented on the questionnaire, and 10 teachers made general observations regarding stress.

Discussion

The sources of stress identified by teachers in response to the open-ended questionnaire item were extensive and diverse. In general, they corresponded with the sources of stress identified in the review of the literature. They were also reflected in the 67 organizational items on the questionnaire, although the individual responses tended to be more colorful and specific. It is interesting to note that 9 teachers specifically discussed questionnaires as a source of stress.

SUMMARY

Problem 5 dealt with the personal response correlate, commitment to the profession, and reasons that teachers give for planning to leave the profession prior to normal retirement age. In general, those teachers who indicated a propensity to leave tended to give stress-related reasons.

Problem 6 was designed to check the comprehensiveness of the 67 potential sources of stress identified in the questionnaire. Although 345 teachers identified what they felt were additional sources of stress, the comments tended to be elaborations on issues already raised by the questionnaire items.

CHAPTER 8

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The first section of this chapter contains an overview of the study and of the major findings. Conclusions drawn from the findings and implications are discussed in the second section.

SUMMARY OF THE STUDY AND MAJOR FINDINGS

Nature of the Study

The purpose of this study was to investigate the extent to which teachers experienced work-related stress and to determine organizational sources that were perceived as contributing factors. Data were sought from all school-based teachers in the Edmonton Catholic School District. For the purposes of gathering data, stress was defined as pressure or overburdening experienced by a person as a result of a situation in the work setting. The study was, therefore, limited to investigating the concept of stress in the sense that Hans Selye (1974) would term "distress."

The framework adopted for assessing relationships among variables emerged from a review of the literature which suggested:

(1) Teachers may be experiencing moderately high degrees of overall work-related stress; overall work-related stress may be related to selected individual variables; and there may be a relationship between overall work-related stress and three additional personal variables: physical illness, personal life stress and commitment to the

profession.

(2) Certain organizational sources may be perceived by teachers as being more stressful than others; since stress is cumulative, the frequency with which the teacher experiences the stressor may be an important factor; and certain sources of stress may be better predictors of overall work-related stress than others.

(3) Teachers may view sources of organizational stress as falling into general categories or factors; stress perceived by teachers on organizational factors may be related to selected individual variables; and there may be a relationship between teachers' perceptions of sources of stress and the three additional personal variables: physical illness, personal life stress and commitment to the profession.

(4) Selected individual variables may be related to teachers' physical illness, personal life stress and commitment to the profession.

(5) Finally, teachers may perceive their intention to leave the profession as a response correlate to the stress they experience in their work.

Instrumentation and Methodology

Data were collected using the Organizational Stress Questionnaire developed for the study. The instrument sought information pertaining to personal characteristics, sources of organizational stress (both frequency and intensity, measured using a five point Likert-type scale and scored 1 to 5), overall work-related stress, experience of physical illness, personal life stress, commitment to the profession, and additional sources of stress. The research methodology was survey, in that the major focus was to describe existing phenomena.

The questionnaire was pilot-tested using 32 teachers, and it was also critically reviewed by three faculty members of the Department of Educational Administration, The University of Alberta, and three staff members of The Alberta Teachers' Association. After revision, it was distributed to 1,448 school-based teachers in the Edmonton Catholic School District. A total of 1,014 returns were received of which 957 were usable for statistical analyses. Statistical techniques used to analyze the data included frequency distributions, _t_ Tests, One-Way Analysis of Variance, Stepwise Multiple Regression, Factor Analysis, Factor Scores, and the Chi Square Test of Significance. Open-ended responses were analyzed according to major themes.

Review of Major Findings

The following summary of the major findings is presented as the findings apply to each of the six problems that were investigated.

Problem 1: Overall Work-Related Stress

Sub-Problem 1.1. "To what extent do teachers experience overall work-related stress?"

More than 75 percent of the respondents reported that their work held moderate, considerable, or very much stress, the mean score on the five point scale being 3.1. Of the total sample, 33.5 percent responded that they found considerable stress or very much stress.

Sub-Problem 1.2. "To what extent is overall work-related stress of teachers associated with personal variables: sex, age, physical illness, personal life stress, and commitment to the profession?"

Sex and age were not related to overall work-related stress. However, teachers who reported having experienced work-related physical illness, those who reported personal life stress, and those who planned to leave the profession or were undecided about leaving all registered significantly higher means on overall work-related stress than those who reported no work-related physical illness, no personal life stress or who planned to retire from a career in education.

Sub-Problem 1.3. "To what extent is overall work-related stress of teachers associated with professional variables: years of education for salary purposes, years of teaching experience, and number of years in present school?"

Years of education, years of teaching experience and number of years in present school were not related to overall work-related stress.

Sub-Problem 1.4. "To what extent is overall work-related stress of teachers associated with structural variables: present position, major grade level, major teaching assignment, and number of teachers in school?"

As with the professional variables, present position, major grade level, major teaching assignment and number of teachers in school were not related to overall work-related stress.

Problem 2: Stress Related to Organizational Items

Sub-Problem 2.1. "To what extent do teachers experience stress on selected organizational items?"

Teachers as a group experienced high frequency of occurrence levels on 26 of the 67 organizational items. Also as a total group, teachers experienced high stress levels on 8 of the 67 organizational items.

Sub-Problem 2.2. "What is the rank order of the organizational items when they are ranked from most stressful to least stressful for the TOTAL group?"

The ten top organizational items, that were sources of the most stress for most of the teachers in the school district, in rank order according to means were: lack of proper placement for students with special needs; lack of sufficient planning time during school day; lack of time during school day to get work done; unmotivated students; disruptive students; lack of public appreciation for work teachers do; over-sized classes; implementing policies with which I disagree; conflicting needs of students (e.g., parents, teachers, central office, school board); and supervising students outside the classroom (e.g., recess, noon hour).

Sub-Problem 2.3. "What is the rank order of the organizational items when both frequency of occurrence and stress are combined (organizational stress), and they are ranked from most stressful to least stressful for the TOTAL group?"

The ten top organizational items, that were sources of the most stress most often for most of the teachers in the school district, in rank order according to means were: lack of time during school day to get work done; lack of sufficient planning time during school day; lack of proper placement for students with special needs: unmotivated students; preparing materials; lack of public appreciation for work teachers do; disruptive students; being required to make frequent role changes (e.g., mother, nurse, referee, judge, social worker, father, policeman); supervising students outside the classroom (e.g., recess, noon hour); and dealing with individual differences.

Sub-Problem 2.4. "What is the rank order of organizational items when only stress which occurs 'frequently' or 'almost constantly' for individuals is taken into consideration?"

The ten top organizational items, that were sources of the greatest stress for individuals to whom they often happened, in rank order according to means were: lack of proper placement for students with special needs; lack of administrative support; involuntary transfer to another school; lack of clearly-defined school policies; disruptive students; implementing policies with which I disagree; lack of feeling of job security; unrealistic expectations of others about what can be accomplished; experiencing poor relationships with a colleague; and lack of sufficient planning time during school day. All but five items, providing help to colleagues, working with volunteers/aides, serving as a role model, preparing materials and conducting field trips, had means above the theoretical mean of 3.00 for those teachers who perceived they often happened.

Sub-Problem 2.5. "Which organizational items are the best predictors of overall work-related stress?"

Fourteen significant predictor variables of overall work-related stress, accounting for 49 percent of the variance, were identified by stepwise multiple regression analysis. They were lack of sufficient planning time during school day, conflicting needs of students, disruptive students, experiencing poor relationships with a colleague, serving as a role model, preparing materials, frequent interruptions in your work, lack of feeling of job security, lack of opportunity for promotion, involuntary transfer to another school, over-sized classes, lack of parental support, staff evaluation procedures, and personality conflicts with students.

The first predictor, lack of sufficient planning time during school day, accounted for 23 percent of the variance, and in combination with conflicting needs of students accounted for 32 percent of the variance in overall work-related stress. For this study, these were the two best predictors of overall work-related stress.

Problem 3: Stress Factors

Sub-Problem 3.1. "Do the organizational stress items represent identifiable general organizational factors?"

Factor analysis of the 67 organizational items resulted in a five factor solution which accounted for 40.3 percent of the total variance. The five factors were Relationships with Colleagues, Teaching Tasks, Work Load, Relationships with Students, and Job Security.

Sub-Problem 3.2. "To what extent is teachers' organizational stress on the organizational factors associated with personal variables: sex, age, physical illness, personal life stress, and commitment to the profession?"

On three of the organizational factors, Teaching Tasks, Work Load, and Job Security, females experienced greater stress than males. Teachers in the 30-39 age group experienced greater stress on Relationships with Colleagues; those in the 25-39 age group scored highest on Teaching Tasks; those in the 25-34 age group scored highest on Work Load; and those in the 20-24 age group reported the most stress related to Job Security.

Teachers who reported that they had experienced work-related physical illness experienced more stress on all five factors. Those who reported personal life stress reported greater stress on Relationships with Students. Teachers who did not plan to pursue a career in education until their normal retirement age scored higher on all factors except Teaching Tasks.

Sub-Problem 3.3. "To what extent is teachers' organizational stress on the organizational factors associated with professional variables: years of education for salary purposes, years of teaching experience, and number of years in present school?"

Teachers with 4 years of education for salary purposes experienced more stress related to Job Security than those with more education. Teachers with 6-15 years of teaching experience reported more stress on Relationships with Colleagues; those with 6-10 years of experience scored highest on Work Load; and those with 1-2 years of experience scored highest on Job Security. Teachers who had been in their present school for 2-5 years scored higher on Relationships with Colleagues and Work Load; those who had been in their present school 3-5 years scored higher on Teaching Tasks; and those who had been in the school 1-2 years scored higher on Job Security.

Sub-Problem 3.4. "To what extent is teachers' organizational stress on the organizational factors associated with structural variables: present position, major grade level, major teaching assignment, and number of teachers in the school?"

Part-time classroom teachers scored lowest on all factors except Job Security for which they were highest. Those who were administrators (part-time) and classroom teachers (part-time) scored highest on Relationships with Colleagues. They were joined by classroom teachers (full-time) in reporting the most stress on Teaching Tasks. Classroom teachers (full-time) reported the most stress on Work Load and Relationships with Students.

Senior high teachers reported greater stress on Relationships with Colleagues; early childhood/elementary teachers were higher on Teaching Tasks and Job Security; and both early childhood/elementary and junior high teachers reported more stress related to Work Load. Early childhood/elementary specialists reported more stress on Teaching Tasks than practical arts specialists, and specialists in reading, early childhood/elementary, second language, and the core subjects experienced the greatest stress related to Work Load.

School size produced significant differences between groups on three factors. Teachers in schools of 41 or more teachers reported the least amount of stress on Teaching Tasks, Work Load, and Job Security.

Problem 4: Further Analysis of the Stress of Respondents

Sub-Problem 4.1. "What differences in personal, professional and structural variables exist between respondents who indicated work-related physical illness and those who indicated no work-related physical illness?"

Teachers with 3-5 years of experience and teachers of the core subjects (math/science/English/social studies) reported the highest incidence of work-related physical illness.

Sub-Problem 4.2. "What differences in personal, professional, and structural variables exist between respondents who indicated personal life stress and those who indicated no personal life stress?"

A larger percentage of males than females reported that they had experienced a number of stressful events in their personal lives during the past two years.

Sub-Problem 4.3. "What differences in personal, professional and structural variables exist between respondents who indicated that they planned to stay in the profession, those who were undecided and those who planned to leave?"

Males, teachers in the 25-29 age group, teachers with 2-10 years of experience, teachers who have been in their present school for 1-2 years, and teachers of senior and junior high were least likely to pursue a career in education until their normal retirement age.

Problem 5: Commitment to the Profession

Sub-Problem 5.1. "What reasons do respondents give for planning to leave the profession prior to normal retirement age?"

Most frequently mentioned as a reason for not pursuing a career in education until normal retirement age was too much stress, followed by need for a career change, lack of rewards and incentive, to raise a family, early retirement, student behavior, need for breaks and renewal, general, work overload and lack of job security. Most of the reasons, given the nature of the comments, could be viewed as being stress-related.

Sub-Problem 5.2. "What reasons do respondents give for being undecided about pursuing a career in education until normal retirement age?"

Most frequently mentioned as a reason for being undecided about pursuing a career in education until normal retirement age was stress, followed by alternatives, concern about the future in education and family commitments. Here, too, many of the reasons could be considered to be stress-related.

Sub-Problem 5.3. "What qualifications do respondents who plan to pursue a career in education until their normal retirement age place on their commitment?"

The most frequently mentioned qualifications were deteriorating working conditions and not in classroom teaching, followed by seeking alternatives, love of work, finances, and family commitments. Only the comments about love of work and family commitments were not stress-related.

Problem 6: Sources of Stress Identified by Teachers

"What organizational items do teachers personally identify as being sources of work-related stress?"

Although this question was aimed at identifying sources of stress in addition to those already mentioned as potential stressors in the questionnaire, respondents, in general, elaborated on situations related to the 67 organizational items. Of the comments that could be classified as relating to the organizational factors, most frequently mentioned were concerns about Relationships with Colleagues, followed by Work Load, Teaching Tasks, Relationships with Students and Job Security.

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Relationships of the Findings to the Literature on Stress

In this section, specific findings of the study are discussed in relation to the general literature on stress which was reviewed in

Chapter 2. There was considerable evidence to indicate that the organizational life experiences of the teachers in the study carried with them a burden of stress. For many teachers the stress was evidenced in the form of physical illness, feelings of burn-out and a desire for alternate work that would not pose the same stressors that were found in teaching. Quality of work life was a major concern.

Overall work-related stress. Comparisons of the results of this study with other studies are difficult because of conceptual, methodological, sampling, and reporting differences. However, at least six other studies have used a similar single measure of overall work-related stress. To the extent that a single measure of self-reported teacher stress can be considered an accurate measure of teacher stress, a partial comparison of the studies can be made as illustrated in Table 43. These comparisons should be interpreted with caution. The Kyriacou and Sutcliffe samples were all from medium-sized mixed comprehensive schools and included no principals; the Feitler and Tokar sample included teachers from smaller rural centres; the Jankovic sample consisted exclusively of high school principals. Where necessary, means have been transposed so that they reflect a five-point scale labelled 0-4.

In general, the teachers in this study were found to be experiencing higher levels of stress than teachers in other comparable studies. The percentage of teachers who reported their work as very stressful or extremely stressful, 33.5 percent, was higher than similar measures reported by Kyriacou and Sutcliffe (1977b: 29.3 percent; 1978b: 19.9 percent; 1979b: 30.4 percent), Feitler and Tokar (1981: 16.5 percent), and Jankovic (1981: 30.4 percent). Two studies (New

Table 43

Comparison of the Prevalence of Stress among Selected Studies (Stress Score Transposed to a 0-4 Scale Where Appropriate)

		Percentage Distribution					
	N	Not Stressful (Score=0)	Mildly Stressful (Score=1)	Moderately Stressful (Score=2)	Very Stressful (Score=3)	Extremely Stressful (Score=4)	Mean
Teachers							
(Kyriacou and Sutcliffe, 1977b)	109	1.8	33.0	35.8	22.9	6.4	not reported
(Kyriacou and Sutcliffe, 1978b)	257	4.7	37.7	37.7	15.6	4.3	1.8
(Kyriacou and Sutcliffe, 1979a)	218	← not reported →					1.8
(Kyriacou and Sutcliffe, 1979b)	130	← not reported →			← 30.4 →		not reported
(Feitler and Tokar, 1981)	3,769	← not reported →			← 16.5 →		1.7
Principals							
(Jankovic, 1981)	237	1.3	14.3	53.8	26.6	3.8	2.2
Teachers (Including Principals)							
(Williams, 1981)	955	2.[illegible]	21.0	43.4	28.4	5.1	2.1

York United Teachers, 1979; and Feitler and Tokar, 1981) suggested that urban teachers experience more stress than their rural or suburban counterparts. The high levels of stress for the present study may, therefore, be partially explained by the fact that the study sample consisted of urban teachers. On the other hand, the mean overall stress score for Jankovic's (1981) study of principals, 2.2, was slightly higher than the mean score for the present study, 2.1, suggesting the possibility that the higher levels of overall stress may be related to the fact that principals were included in the sample. The study did not find that principals reported more overall work-related stress, however. It may be that the explanation lies in the possibility that certain school districts are higher stress districts than others and that certain schools are higher stress schools than others.

The results of previous studies that had used a general measure of overall work-related stress were mixed when one looked for an association between overall work-related stress and individual characteristics such as sex, age, education, experience, years in present school, position, grade level, teaching assignment and school size. The results of this study supported the Kyriacou-Sutcliffe contention that sex, qualifications, age, experience and position are not associated with teachers' overall work-related stress. However, overall work-related stress was associated with teachers' reported physical illness, with their reported personal life stress and with their plans to leave the profession. This finding supported similar findings of Kahn et al. (1964), French and Caplan (1972), Howard (1978), and others.

The open-ended responses of teachers, giving reasons for leaving the profession, reflected many of the symptoms of burn-out as identified by Maslach (1978) and Edlewich (1980). Mental and emotional exhaustion was mentioned by many of the teachers. However, the study did not directly measure the degree to which teachers were suffering the symptoms of burn-out.

Sources of stress. Again, comparisons of the results of this study with other studies are difficult because of conceptual, methodological, sampling, and reporting differences. In general, the responses of teachers indicated that the sources of organizational stress identified in the review of the literature applied to the school setting. Organizational items relating to role conflict, role ambiguity and role overload ranked high in teachers' perceptions of sources of stress. Also important were items related to supervisory responsibility and relationships with colleagues and students. The built-in sources of frustration in human service organizations as identified by Edlewich (1980) were also evidenced by the teachers in this study. Frustrations with student motivation and discipline, with lack of positive feedback, with low pay for the effort expended, with promotion policies and communication with central office, with lack of support and appreciation from the public, and with trying to be all things to all people were elaborated on at length by the respondents. The special character and intensity of stress and burn-out in human service organizations were reflected in teachers' comments.

Some evidence was provided by the present study to support the contention that frequency of occurrence is an important ingredient when studying sources of teacher stress. Averaging perceptions of stress sources for teachers in a district may identify district priorities but not individual priorities. A comparison of the priorities of the total sample in the present study and the total sample in the Kyriacou and Sutcliffe (1978b) study follows:

Kyriacou and Sutcliffe (1978b)	Williams (1981) (for District)
1. pupils' poor attitudes to work	1. lack of proper placement for students with special needs
2. trying to uphold/maintain standards	2. lack of sufficient planning time during the school day
3. poorly motivated pupils	3. lack of time during school day to get work done
4. covering lessons for absent teachers	4. unmotivated students
5. too much work to do	5. disruptive students
6. lack of time to spend with individual pupils	6. lack of public appreciation for work teachers do
7. individual pupils who continually misbehave	7. over-sized classes
8. pupils who show lack of interest	8. implementing policies with which I disagree
9. not enough time to do the work	9. conflicting needs of students
10. lack of time for marking	10. supervising students outside the classroom

Where comparable questionnaire items were used, there is a remarkable similarity in priorities between the two studies.

On the other hand, there is also a similarity when the priorities for individual teachers in the present study are compared with three other studies. Several of these individual priorities differ from the averaged scores:

New York State United Teachers (1979)

1. managing disruptive children
2. incompetent administrators (lack of administrative support)
3. maintaining control when angry
4. overcrowded classroom
5. first week of school

Cichon and Koff (1980)

1. involuntarily transferred
2. managing disruptive children
3. notification of unsatisfactory performance
4. threatened with personal injury
5. overcrowded classroom

Tacoma School District (1980)

1. involuntarily transferred
2. notification of unsatisfactory performance
3. colleague assaulted in school
4. managing disruptive children
5. disagreement with supervisor

Williams (1981) (for Individuals)

1. lack of proper placements for students with special needs
2. lack of administrative support
3. involuntary transfer to another school
4. lack of clearly-defined school policies
5. disruptive students

It may be most fruitful to identify those high stress items that happen to teachers frequently with the intent either of altering the items or providing teachers with coping strategies to manage them. In any event, teachers in this study, both as a total group and as individuals for whom they occurred frequently ranked lack of proper placement for students with special needs, disruptive students, implementing policies with which they disagree, and lack of sufficient planning time during the school day as great sources of stress. Pupil misbehavior and time pressures were common threads throughout the literature.

Stress related to organizational factors. The review of the literature suggested that while there may not be individual differences in teachers' perceptions of overall work-related stress, there may be individual differences in perception of the sources of stress. The results of this study supported that contention. There were a number of individual differences related to stress on the organizational factors. However, studies of stress using this methodological approach could not be located for comparison purposes.

The differences do identify a number of possible issues. For example:

(1) Why do teachers in the 30-39 age group, teachers with 6-15 years of experience, teachers with 2-5 years in their present school, teachers who are administrators part-time and classroom teachers part-time, and teachers of senior high school report more stress on relationships with colleagues?

(2) Why do female teachers, teachers in the 25-29 age group, teachers who are administrators part-time and classroom teachers part-time, teachers of early childhood/elementary and teachers in schools with less than 41 teachers report more stress than their colleagues on teaching tasks?

(3) Why do female teachers, teachers in the 25-34 age group, teachers with 6-10 years of experience, teachers with 2-5 years in their present school, teachers of second languages and the core subjects and teachers in schools with less than 41 teachers report more stress than their colleagues on work load?

(4) Why do females, teachers with four or less years of education, teachers with 1-2 years of experience, teachers with 1-2 years in their present school and teachers in schools with less than 41 teachers report more stress than their colleagues on job security?

It should be noted, of course, that the individual variables are not mutually exclusive. However, these issues require further study. For example, teachers in this study, themselves, offered explanations for two of the differences. Teachers in schools with fewer than 41 teachers experienced more stress on teaching tasks, work load and job security. Many of them commented that schools in the district were experiencing declining enrolments and reductions in teaching staff leading to job insecurity and a greater workload for those who were left. There appeared to be an expectation that programs, both curricular and extra-curricular, must be maintained even though there are fewer people to do the work. The finding may have also reflected the amount of preparation time available to teachers in smaller schools. Also, part-time teachers experienced the least amount of stress on four of the five factors. Many of them commented that they had chosen to teach part-time for that reason. In summary, to study a school district and to gather data about the sources of teacher stress may provide generalizations about teachers' quality of work life. However, a better unit for the analysis may be the individual school (Blumberg and Kleinke, 1981) since situational factors that may vary from school to school were perceived by teachers in this study as being important. Furthermore, it would appear that personality variables not included in this study may be important in how teachers view sources of stress.

Mediating variables. The present study provided support for the Kyriacou and Sutcliffe (1978a) model of teacher stress presented in Chapter 2. Physical illness was associated with overall work-related stress and stress on all five factors. Propensity to leave the profession was associated with overall work-related stress and stress on all factors except teaching tasks. Personal life stress was associated with overall work-related stress and stress on the factor relationship with students. The latter finding is particularly interesting. It may be that a major source of personal life stress is dealing with family problems, particularly children. Since the questionnaire did not seek data about family status, this could not be checked. Perhaps the questionnaire would be improved if it were modified to include such information.

Implications for Practice

Implications for administration. The findings of this study raise a number of issues which have significance for the long-term effectiveness of the educational enterprise. The following implications are pertinent to administrators who work closely with school-based teachers and to trustees and politicians who make decisions about funding and policies.

(1) Teachers in the school district represented in the study were very concerned about lack of proper placement for students with special needs. Policy, procedures and resources for coping with this perceived problem should be examined.

(2) Lack of planning time and time during the school day to get work done were two major stressors for the vast majority of teachers in this and other studies. Additional efforts to provide more preparation and inservice time during the school day, especially for elementary teachers, second language teachers, and teachers of the core subjects seem warranted.

(3) Over-sized classes and out-of-classroom supervision were also high stressors for the vast majority of teachers. Additional

efforts might be made to reduce class size and to provide assistance with out-of-class supervision so that teachers can have daily breaks from constant interaction with students.

(4) The study provided evidence that many teachers were suffering from what might be termed symptoms of mid-career burn-out. Since those teachers who were able to take frequent breaks from the profession indicated that they returned refreshed and revitalized, efforts might be made to improve sabbatical and short-term leave provisions.

(5) Many teachers indicated that they planned to take early retirement because of the stress they were experiencing. Alternatives to early retirement could be explored.

(6) Teachers indicated that lack of job security was an important stressor. Policies regarding promotions, temporary contracts, and transfers might be revised to minimize the stress that appears to emanate from these sources. Also the stresses associated with declining enrolments and the expectations, both curricular and extra-curricular, for smaller schools should receive more attention.

(7) The stresses caused by teachers' perceptions of lack of public appreciation, lack of positive feedback, lack of communication and lack of parental and administrative support must continue to be matters of concern. The often-stated plea for recognition (monetary or otherwise) for effort warrants additional attention. Many teachers indicated that they planned to leave the profession because of these frustrations.

(8) When formulating policies that affect the work of teachers, administrators ought to be aware of potential stresses that the

policies may create and try to minimize the stress. This would include such diverse issues as parental involvement in the early childhood program, mainstreaming, introduction of new curricula, building of windowless classrooms, and evaluation and staffing procedures. This study and other studies of stress suggest that diseconomies of scale created by stress that is induced by administrative policies need to be taken into consideration in the formulation of policy.

(9) Administrators should also be aware that sources of stress appear to vary depending on individual variables. Many businesses and industries now provide counselling and related support services to personnel who have need of them. Perhaps similar services could be provided for teachers.

Implications for preparation and inservice programs. An emphasis on the development of skills related to some of the sources of stress may assist teachers in coping with major stressors in their work. Further, they should be provided, early in their teacher education, with more realistic expectations about what the job entails.

(1) Two major stressors were unmotivated students and disruptive students. More attention could be given to providing teachers with techniques for handling these problems effectively. Also major sources of stress were dealing with individual differences, student evaluation, and diagnosing student needs. Techniques for coping with these stressors could be given high priority in both preservice and inservice programs.

(2) Preparing materials, work load, paperwork, deadlines and

setting priorities were also major sources of stress. More emphasis could be placed on providing teachers with time management techniques that would assist in alleviating the overburden that many of them experience.

(3) Since many of the teachers in the study found their work moderately to extremely stressful, planned programs that provide teachers with coping strategies seem warranted. Most inservice programs are highly subject-matter or academically oriented. Perhaps more should be designed to deal with the personal problems of teachers.

Implications for Further Study

(1) This study could be extended by selecting a stratified random sample of teachers throughout the province to determine to what extent the findings are generalizable for Alberta.

(2) Future research might focus on the following issues identified from this study:

(a) What are the characteristics (organizational items) that make one school a high stress school and another school a low stress school or one school district a high stress district and another a low stress district?

(b) What is the correlation between teachers' self-reports about stress and actual physiological symptoms of stress that they experience?

(c) How do teachers cope with the stresses of their work lives?

(d) What is the relationship between a teacher's family situation and personal life stress and the stress he or she experiences on the job?

(e) Are there certain personality characteristics that enable some teachers to cope with more stress than other teachers?

(f) Do urban teachers experience more stress than their suburban and rural counterparts?

(g) Is there a correlation between sickness absence and work-related stress?

(h) Why do teachers who experience personal life stress experience greater stress in their relationships with students? Is personal life stress a moderator in teachers' perceptions of overall work-related stress?

(i) Why does the 25-39 age category appear to be critical for teacher stress?

(3) Further research is required to determine the relationship, if any, between teacher stress and burn-out and student achievement.

(4) Research is also required to determine the efficacy of stress-reduction programs, both preservice and inservice for teachers.

(5) Case studies to determine the association between selected administrative practices and teacher stress would be useful.

(6) Finally experimental studies to determine the effects on teacher stress of reducing or eliminating some of the top stressors identified in this study would seem appropriate.

BIBLIOGRAPHY

BIBLIOGRAPHY

Adams, John D.

1980a "Stress and the Risk of Illness." In Adams (Ed.), *Understanding and Managing Stress*, San Diego: University Associates.

1980b "On Consuming Human Resources: Perspectives on the Management of Stress." In Adams (Ed.), *Understanding and Managing Stress*, San Diego: University Associates.

1980c "Improving Stress Management: An Action-Research-Based OD Intervention." In Adams (Ed.), *Understanding and Managing Stress*, San Diego: University Associates.

Alley, Robert D.

1980 "Stress and the Professional Educator." *Action in Teacher Education*, 2:4:1-8, Fall.

Alschuler, Alfred S. (Ed.)

1980 *Teacher Burnout*. Washington D.C.: National Education Association.

Appley, Mortimer and Richard Trunbell (Eds.)

1967 *Psychological Stress*. New York: Appleton-Century-Crofts.

Beehr, Terry A.

1976 "Perceived Situational Moderators of the Relationship between Subjective Role Ambiguity and Role Strain." *Journal of Applied Psychology*, 61:1:35-40.

Beehr, Terry A., Jeffrey T. Walsh, and Thomas D. Taber

1976 "Relationship of Stress to Individually and Organizationally Valued States: Higher Order Needs as a Moderator." *Journal of Applied Psychology*, 61:1:41-47.

Bensky, Jeffrey M., Stan F. Shaw, Allen S. Gouse, Herman Bates, Benjamin Dixon and William E. Beane

1980 "Public Law 94-142 and Stress: A Problem for Educators." *Exceptional Children*, 47:1:24-29, September.

Biddle, B.J. and E.J. Thomas (Eds.)

1966 *Role Theory: Concepts and Research*. New York: Wiley.

Bloch, Alfred

1977 "The Battered Teacher." *Today's Education*, 66:2:58-62, March-April.

Blumberg, Arthur and David J. Kleinke

1981 "An Instrument for Describing the Work-Life of Teachers." Paper presented at annual meeting of AERA in Los Angeles, April 12-16.

Bouchard, Jr., Thomas J.
1976 "Field Research Methods: Interviewing, Questionnaires, Participant Observation, Systematic Observation, Unobtrusive Measures." In Dunnette (Ed.), Handbook of Industrial and Organizational Psychology. Chicago: Rand McNally.

Brief, A.P. and R.J. Aldag
1976 "Correlates of Role Indices." Journal of Applied Psychology, 61:468-472.

Brodsky, Carroll M.
1977 "Long-term Work Stress in Teachers and Prison Guards." Journal of Occupational Medicine, 19:2:133-138, February.

Buck, Vernon E.
1972 Working Under Pressure. New York: Crane, Russak and Company.

Burgoyne, J.G.
1975 "Stress, Motivation and Learning." In Gowler and Legge (Eds.), Managerial Stress, Epping, Essex: Gower.

Caplan, Robert D., Sidney Cobb and John R.P. French, Jr.
1975 "Relationships of Cessation of Smoking with Job Stress, Personality and Social Support." Journal of Applied Psychology, 60:2:211-219.

Caplan, Robert D. and Kenneth W. Jones
1975 "Effects of Work Load, Role Ambiguity, and Type A Personality on Anxiety, Depression, and Heart Rate." Journal of Applied Psychology, 60:6:713-719.

Cardinell, C.F.
1980 "Teacher Burnout: An Analysis." Action in Teacher Education, 2:4:9-15, Fall.

Chan, Kwok B.
1977 "Individual Differences in Reactions to Stress and Their Personality and Situational Determinants: Some Implications for Community Mental Health." Social Science and Medicine, 11:89-103.

Cichon, Donald J. and Robert H. Koff
1978 "The Teaching Events Stress Inventory." Paper presented at annual meeting of AERA in Toronto, March 27-31.

1980 "Stress and Teaching." NASSP Bulletin, 64:91-104, March.

Cooper, Cary L. and Judi Marshall
1976 "Occupational Sources of Stress: A review of the Literature Relating to Coronary Heart Disease and Mental Ill Health." Journal of Occupational Psychology, 49:11-28.

Cox, Tom
1975 "The Nature and Management of Stress." New Behaviour, September, 493-495.

Donaldson, John and Dan Gowler
1975 "Prerogatives, Participation and Managerial Stress." In Gowler and Legge (Eds.), Managerial Stress, Epping, Essex: Gower.

Dunham, Jack
1976 "Stress Situations and Responses." In National Association of Schoolmasters (Eds.), Stress in Schools, Hemel Hempstead: National Association of Schoolmasters.

Edelwich, Jerry
1980 Burn-Out: Stages of Disillusionment in the Helping Professions. New York: Human Sciences Press.

Fairhurst, Eileen
1975 "Expectations, Chance and Identity-Stress." In Gowler and Legge (Eds.), Managerial Stress, Epping, Essex: Gower.

Feitler, Fred C. and Edward B. Tokar
1981 "Teacher Stress: Sources, Symptoms and Job Satisfaction." Paper presented at annual meeting of AERA in Los Angeles, April 12-16.

Ferguson, D.
1974 "A Study of Occupational Stress and Health." In Welford (Ed.) Man Under Stress, London: Taylor and Francis.

Fineman, Stephen
1979 "A Psychosocial Model of Stress and Its Application to Managerial Unemployment." Human Relations, 32:4:323-345.

Ford, David L. and Diane S. Bagot
1980 "Correlates of Job Stress and Job Satisfaction for Minority Professionals in Organizations." In Adams (Ed.), Understanding and Managing Stress, San Diego: University Associates.

French, John R. and Robert D. Caplan
1972 "Organizational Stress and Individual Strain." In Marrow (Ed.), The Failure of Success, New York: AMACOM.

French, J.R.P., C.J. Tupper and E.F. Mueller
1965 Workload of University Professors. Cooperative Research Project No. 2171, University of Michigan.

Frew, David R.
1977 Management of Stress: Using TM at Work. Chicago: Nelson-Hall.

Friedman, M. and Ray H. Rosenman
1974 *Type A Behavior and Your Heart*. New York: Alfred A. Knopf.

Giammatteo, Michael C. and Delores M. Giammatteo
1980 *Executive Well-Being: Stress and Administrators*. Reston: National Association of Secondary School Principals.

Gmelch, Walter H.
1977 "Beyond Stress to Effective Management." *Oregon School Study Council Bulletin*, 20:9 & 10:1-62.

1978 "The Principal's Next Challenge: The Twentieth Century Art of Managing Stress." *NASSP Bulletin*, 62:5-12, February.

Goodall, Robert and Les Brown
1980 "Understanding Teacher Stress." *Action in Teacher Education*, 2:4:17-22, Fall.

Gorman, Brian
1979 *Attitude Therapy for Stress Disorders*. Calgary: Detselig Enterprises.

Gowler, Dan and Karen Legge
1975a "Stress Constructs and Problems." In Gowler and Legge (Eds.), *Managerial Stress*, Epping, Essex: Gower.

1975b "Stress, Success and Legitimacy. In Gowler and Legge (Eds.), *Managerial Stress*, Epping, Essex: Gower.

1975c "Stress, and External Relationships: the 'Hidden Contract'." In Gowler and Legge (Eds.), *Managerial Stress*, Epping, Essex: Gower.

Greenberg, Herbert M.
1980 *Coping with Job Stress*. Englewood Cliffs: Prentice-Hall.

Greene, C.N. and D.W. Organ
1973 "An Evaluation of Causal Models Linking the Received Role with Job Satisfaction." *Administrative Science Quarterly*, 18:95-103.

Hackman, J.R. and E.E. Lawler III
1971 "Employee Reactions to Job Characteristics." *Journal of Applied Psychology Monograph*, 55:259-286.

Hall, John W.
1977 Unpublished Stress Materials presented at an NCPEA Conference, Eugene, Oregon.

Hamner, W.C. and H.L. Tosi
1974 "Relationships of Role Conflict and Role Ambiguity to Job Involvement Measures." Journal of Applied Psychology, 59:497-499.

Hill, Joseph E and August Kerber
1967 Models, Methods, and Analytical Procedures in Education Research, Detroit: Wayne State University.

Hinkle, Lawrence E.
1974 "The Concept of Stress in the Biological and Social Sciences." International Journal of Psychiatry in Medicine, 5:4:335-357.

Holdaway, Edward A.
1978 Teacher Satisfaction: An Alberta Report. Edmonton: University of Alberta, Department of Educational Administration.

Hollon, C.J. and R.J. Chesser
1976 "The Relationship of Personal Influence Dissonance to Job Tension, Satisfaction and Involvement." Academy of Management Journal, 19:2:308-314, June.

Hollon, Charles and Gary Gemmill
1976 "A Comparison of Female and Male Professors on Participation in Decision Making, Job Related Tension, Job Involvement and Job Satisfaction." Educational Administration Quarterly, 12:1:80-93, Winter.

Holmes, T.H. and R.H. Rahe
1967 "The Social Readjustment Rating Scale." Journal of Psychosomatic Research, 11:213-217.

House, James S.
1974 "Occupational Stress and Coronary Heart Disease: A Review and Theoretical Integration." Journal of Health and Social Behavior, 15:12-27, March.

House, R.J. and J.R. Rizzo
1972a "Role Conflict and Ambiguity as Critical Variables in a Model of Organizational Behavior." Organizational Behavior and Human Performance, 7:467-505.

1972b "Toward the Measurement of Organizational Practices: Scale Development and Validation." Journal of Applied Psychology, 56:388-396.

Howard, John
1973 "What Is Our Capacity to Cope with Stress?" The Business Quarterly, 38:4:72-79, Winter.

Howard, John
1975 "Management Productivity: Rusting Out or Burning Out?" The Business Quarterly, 40:2:44-49, Summer.

Howard, John, Peter A. Rechnitzer and D.A. Cunningham
1975a "Coping with Job Tension: Effective and Ineffective Methods." Public, Personnel Management, 4:317-326.

1975b "Stress Inoculation: For Managers and Organizations." The Business Quarterly, 40:4:73-79, Winter.

1976 "The Type A Manager." The Business Quarterly, Reprint: 1-6.

1978 Rusting Out, Burning Out, Bowing Out. Toronto: Gage.

Jackson, S. and Christina Maslach
1980 "Job Stress among Helping Professionals: The Effects on Workers and Their Families." Paper presented at York University Conference on Occupational Stress, Toronto, April.

Janda, Kenneth F.
1972 "Towards the Explication of the Concept of Leadership in Terms of the Concept of Power." In Paige (Ed.), Political Leadership: Readings for an Emerging Field. Toronto: Collier-Macmillan.

Jankovic, Michael M.
1981 "The Prevalence and Sources of Stress Among Victorian High School Principals." Unpublished masters thesis. Melbourne: University of Melbourne.

Johns, M.W.
1974 "Stress and Coronary Heart Disease." In Welford (Ed.), Man Under Stress, London: Taylor and Francis.

Johnson, T.W. and J.E. Stinson
1975 "Role Ambiguity, Role Conflict, and Job Satisfaction: the Moderating Effects of Individual Differences." Journal of Applied Psychology, 60:329-333.

Kahn, R.L., D.M. Wolfe, R.P. Quinn, J.D. Snoek and R.A. Rosenthal
1964 Organizational Stress: Studies in Role Conflict and Ambiguity. New York: Wiley.

Kahn, Robert L.
1973 "Conflict, Ambiguity, and Overload: Three Elements in Job Stress." Occupational Mental Health, 3:1:2-9.

Kerlinger, Fred N.
1973 Foundations of Behavioral Research (Second Edition). New York: Holt, Rinehart and Winston.

Kiev, Ari
1974 A Strategy for Handling Executive Stress. Chicago: Nelson-Hall.

Klein, Stuart M.
1971 Workers Under Stress. Lexington: University Press of Kentucky.

Kossack, Sharon W. and Sandra L. Woods
1980 "Teacher Burnout: Diagnosis, Prevention, Remediation." Action in Teacher Education, 2:4:29-36, Fall.

Kolmes, Jo-Ann
1979 "Caution: Teaching May Be Hazardous." ATA News, 13:14:4, March 26.

Kowalski, Adam
1979 "Teaching and Stress." OSSTF Forum, 5:57-58, March.

Kowalski, Adam and Edita Kowalski
1977 "The Roots of Stress." The Financial Post Magazine, November.

Kratzmann, Arthur, Timothy C. Byrne and Walter H. Worth
1980 A System in Conflict. (A report to the Minister of Labour by the Fact Finding Commission.) Edmonton: Alberta Labour.

Kyriacou, Chris and Job Sutcliffe
1977a "Teacher Stress: A Review." Educational Review, 29:4:299-306.

1977b "The Prevalence of Stress among Teachers in Medium-Sized Mixed Comprehensive Schools." Research in Education, Manchester University Press, 18:75-79, November.

1978a "A Model of Teacher Stress." Educational Studies, 4:1:1-6, March.

1978b "Teacher Stress: Prevalence, Sources, and Symptoms. British Journal of Educational Psychology, 48:159-167.

1979a "Teacher Stress and Satisfaction." Educational Research, 21:2:89-96.

1979b "A Note on Teacher Stress and Locus of Control." Journal of Occupational Psychology, 52:227-228.

Laffey, James M., Donald J. Cichon, Robert H. Koff and George E. Olson
1979 "A Comparative Study of Stress Associated with Teaching." Paper presented at annual meeting of AERA in San Francisco, April 8-12.

Landsmann, Leanna
1978 "Principals May Be Hazardous to Their Teachers' Health." *National Elementary Principal*, 57:69-72, March.

Levi, Lennart
1967 *Stress: Sources, Management and Prevention*. New York: Liveright.

Locke, Edwin A.
1976 "The Nature and Causes of Job Satisfaction." In Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology*. Chicago: Rand McNally.

Lupton, Tom
1975 "Structure, Process and Stress." In Gowler and Legge (Eds.), *Managerial Stress*, Epping, Essex: Gower.

Lyons, T.
1971 "Role Clarity, Need for Clarity, Satisfaction, Tension and Withdrawal." *Organizational Behavior and Human Performance*, 6:99-110.

MacRae, Phyllis
1979 "The Quality of Working Life of PAPT Teachers." *Sentinel*, 13:9:10, May.

Manera, Elizabeth S. and Robert E. Wright
1980 "Stress Factors in Teaching." *Action in Teacher Education*, 2:4:51-56, Fall.

Maples, Mary F.
1980 "Stress: In Defense of Its Positive Dimensions." *Action in Teacher Education*, 2:4:23-28, Fall.

Maslach, Christina
1978a "Job Burnout: How People Cope." *Public Welfare*, Spring.

1978b "The Client Role in Staff Burnout." *Journal of Social Issues*, 34:4:111-124.

McGrath, Joseph E.
1976 "Stress and Behavior in Organizations." In Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology*. Chicago: Rand McNally.

McGuire, Willard H.
1979 "Teacher Burnout." *Today's Education*, 68:4:5, November-December.

Miles, Robert H.

1975 "An Empirical Test of Causal Inference between Role Perceptions of Conflict and Ambiguity and Various Personal Outcomes." Journal of Applied Psychology, 60:334-339.

1976a "Individual Differences in a Model of Organizational Role Stress." Journal of Business Research, 4:2:87-102.

1976b "A Comparison of the Relative Impacts of Role Perceptions of Ambiguity and Conflict by Role." Academy of Management Journal, 19:1:25-35, March.

1976c "Role Requirements as Sources of Organizational Stress." Journal of Applied Psychology, 61:172-179.

Miles, Robert H. and William D. Perreault

1976 "Organizational Role Conflict: Its Antecedents and Consequences." Organizational Behavior and Human Performance, 17:19-44.

Miller, William C.

1979 Dealing with Stress: A Challenge for Educators. Fastback 130. Bloomington: Phi Delta Kappa Educational Foundation.

Morris, John

1975 "Managerial Stress and the 'Cross of Relationships'." In Gowler and Legge (Eds.), Managerial Stress, Epping, Essex: Gower.

Mumford, Enid

1975 "Stress, Uncertainty and Innovation: Some Examples from the Installation of Large-Scale Computer Systems." In Gowler and Legge (Eds.), Managerial Stress, Epping, Essex: Gower.

New York State United Teachers

1979 "NYSUT Teacher Stress Survey." NYSUT Information Bulletin, November.

Nie, Norman H., C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner and Dale H. Bent

1975 Statistical Package for the Social Sciences (Second Edition). New York: McGraw-Hill.

Organ, D.W.

1971 "Some Variables Affecting Boundary Role Behavior." Sociometry, 34:524-537.

Organ, D.W. and C.N. Greene

1974 "Role Ambiguity, Locus of Control and Work Satisfaction." Journal of Applied Psychology, 59:101-102.

Paul, Robert J.
1975 "Some Correlates of Role Ambiguity — Men and Women in the Same Work Environment." Educational Administration Quarterly, 11:3:85-98, Autumn.

Pilowsky, I.
1974 "Psychiatric Aspects of Stress." In Welford (Ed.), Man Under Stress, London: Taylor and Francis.

Plumb, Louise
1975 "Managers React to Stress." Institute of Canadian Bankers, 82:6:36-40, November-December.

Porter, Lyman W., Edward E. Lawler III and J. Richard Hackman
1975 Behavior in Organizations. New York: McGraw-Hill.

Poste, Ron
1981 Personal correspondence regarding Ontario Superannuation Commission death statistics since January 1, 1976.

Pratt, John
1978 "Perceived Stress Among Teachers: The Effects of Age and Background of Children Taught." Educational Review, 30:1:3-14.

Rahe, Richard H., Joseph D. McKean, Jr. and Ransom J. Arthur
1967 "A Longitudinal Study of Life-change and Illness Patterns." Journal of Psychosomatic Research, 10:355-366.

Rice, Alan W.
1978 "Individual and Work Variables Associated with Principal Job Satisfaction." Unpublished doctoral dissertation. Edmonton: University of Alberta.

Ricken, Robert
1980 "Teacher Burnout: A Failure of the Supervisory Process." NASSP Bulletin, 64:434:21-24, March.

Rizzo, J.R., R.J. House and S.I. Lirtzman
1970 "Role Conflict and Ambiguity in Complex Organizations." Administrative Science Quarterly, 15:150-163.

Sarason, I.G. and C.D. Spielberger
1975 Stress and Anxiety. New York: Wiley, Vol. 2.

1976 Stress and Anxiety. New York: Wiley, Vol. 3.

Schuler, Randall S.
1977a "The Effects of Role Perceptions on Employee Satisfaction and Performance Moderated by Employee Ability." Organizational Behavior and Human Performance, 20:98-107.

Schuler, Randall S.
1977b "Role Conflict and Ambiguity as a Function of the Task -- Structure -- Technology Interaction." *Organizational Behavior and Human Performance*, 20:66-74.

Schuler, R.S., R.J. Aldag and A.P. Brief
1977 "Role Conflict and Ambiguity: A Scale Analysis." *Organizational Behavior and Human Performance*, 20:111-128.

Schwab, Richard L. and Edward F. Iwanicki
1981 "The Effect of Role Conflict and Role Ambiguity on Perceived Levels of Teacher Burnout." Paper presented at annual meeting of AERA in Los Angeles, April 12-16.

Searing, Donald D.
1972 "Models and Images of Man and Society in Leadership Theory." In Paige (Ed.), *Political Leadership: Readings for an Emerging Field*. Toronto: Collier-Macmillan.

Selye, Hans
1957 *The Stress of Life*. New York: Longmans Green.

1974 *Stress Without Distress*. New York: Signet.

Simpson, J.
1962 "Sickness Absence in Teachers." *British Journal of Industrial Medicine*, 19:110-115.

1976 "Stress, Sickness Absence and Teachers." In National Association of Schoolmasters (Eds.), *Stress in Schools*, Hemel Hempstead: National Association of Schoolmasters.

Sims, Henry and Andrew Szilagyi
1976 "Job Characteristic Relationships: Individual and Structural Moderators." *Organizational Behavior and Human Performance*, 17:211-230.

Sims, Henry P., Andrew Szilagyi and Robert Keller
1976 "The Measurement of Job Characteristics." *Academy of Management Journal*, 19:2:193-212, June.

Spielberger, C.D. and I.G. Sarason
1975 *Stress and Anxiety*. New York: Wiley, Vol. 1.

Sylwester, Robert
1967 "Stress." *Instructor*, March 1977, 72-76.

Szilagyi, A., H. Sims and R. Keller
1976 "Role Dynamics, Locus of Control, and Employee Attitudes and Behavior." *Academy of Management Journal*, 19:2:259-276, June.

Thomas, Edwin J. and Bruce J. Biddle
1966 "Basic Concepts for the Variables of Role Phenomena." In Biddle and Thomas (Eds.), *Role Theory: Concepts and Research*, New York: Wiley.

Thompson, J.D.
1967 *Organizations in Action*. New York: McGraw-Hill.

Toffler, Alvin
1970 *Future Shock*. New York: Random House.

Torrance, Paul E.
1965 *Constructive Behavior: Stress, Personality and Mental Health*. Belmont, Calif.: Wadsworth.

Tosi, H. and D. Tosi
1970 "Some Correlates of Role Conflict and Ambiguity Among Public School Teachers." *Journal of Human Relations*, 18:1068-1075.

Travers, Robert M.W.
1964 *An Introduction to Educational Research (Second Edition)*. Toronto: Collier-Macmillan.

Truch, Stephen
1980 *Teacher Burnout and What to do About it*. Novato, California: Academic Therapy Publications.

Vetter, Eric W.
1976 "Role Pressure and the School Principal." *NASSP Bulletin*, 60:0403:11-23.

Warmington, Allan
1975 "Stress in the Management of Change." In Gowler and Legge (Eds.), *Managerial Stress*, Epping, Essex: Gower.

Weir, David
1975 "Stress and the Manager in the Over-Controlled Organization." In Gowler and Legge (Eds.), *Managerial Stress*, Epping, Essex: Gower.

Weiskopf, Patricia E.
1980 "Burnout Among Teachers of Exceptional Children." *Exceptional Children*, 47:1:18-23, September.

Welford, A.T.
1975 "Stress and Performance." In Welford (Ed.), *Man Under Stress*, London: Taylor and Francis.

Wild, Bradford S. and Carolyn Hanes
1976 "A Dynamic Conceptual Framework of Generalized Adaptation to Stressful Stimuli." *Psychological Reports*, 38:319-334.

Wood, Steve
1975 "Redundancy and Stress." In Gowler and Legge (Eds.), Managerial Stress, Epping, Essex: Gower.

Yetton, Philip W.
1975 "Leadership Style and Stressful and Non-Stressful Situations." In Gowler and Legge (Eds.), Managerial Stress, Epping, Essex: Gower.

Young, Timothy W.
1980 "Teacher Stress: One School District's Approach." Action in Teacher Education, 2:4:37-40, Fall.

Zaleznik, Abraham, Manfred Kets De Vries and John Howard
1977 "Stress Reactions in Organizations: Syndromes, Causes and Consequences." Behavioral Science, 22:151-162.

A P P E N D I X

Organizational
Stress
Questionnaire

TO ALL TEACHERS AND ADMINISTRATORS

Dear Colleague:

Your response to this questionnaire is an important part of the research I am conducting in connection with my doctoral program of studies at the University of Alberta. Your effort in providing the information requested would, therefore, be greatly appreciated.

The questionnaire items are designed to identify organizational sources of stress for teachers occupying various roles in the school setting. Many of you have already contributed to identification of the items, for which I am grateful. Please be frank and honest in selecting your responses and answer all items. It will take about 30 minutes.

INDIVIDUAL'S RESPONSES ARE ENSURED THE STRICTEST CONFIDENTIALITY. Please do not write your name on the questionnaire.

Follow closely the directions for each section. When you have completed Parts A to C of the questionnaire, place it in the attached envelope, seal and give it to your school principal, if possible, WITHIN ONE WEEK.

Copies of the final dissertation will be provided to your school board and your ATA local.

THANK YOU VERY MUCH FOR YOUR COOPERATION.

Very sincerely yours,

Mary-Jo Williams

Mary-Jo Williams

1

for
office
use
CC

PART A: PERSONAL-EDUCATIONAL DATA

This information is required to enable comparisons to be made among groups. Please check (✓) the ONE response which gives the correct information about you or your school. PLEASE ANSWER EACH ITEM.

1 ---- 1
1 ---- 5

1. SEX:
   ( ) 1. Male 6
   ( ) 2. Female

2. AGE (on last birthday):
   ( ) 1. 20 - 24
   ( ) 2. 25 - 29
   ( ) 3. 30 - 34
   ( ) 4. 35 - 39
   ( ) 5. 40 - 44
   ( ) 6. 45 - 49 7
   ( ) 7. 50 - 54
   ( ) 8. 55 - 59
   ( ) 9. 60 or over

3. YEARS OF EDUCATION FOR SALARY PURPOSES:
   ( ) 1. One
   ( ) 2. Two
   ( ) 3. Three
   ( ) 4. Four 8
   ( ) 5. Five
   ( ) 6. Six

4. PRESENT POSITION:
   ( ) 1. Classroom teacher (full-time) 9
   ( ) 2. Administrator (full-time)
   ( ) 3. Administrator (part-time)/classroom teacher (part-time)
   ( ) 4. Classroom teacher (part-time)
   ( ) 5. Counsellor (full-time)
   ( ) 6. Counsellor (part-time)

5. MAJOR GRADE LEVEL AT WHICH YOU WORK (give ONE best approximation):
   ( ) 1. Early Childhood (pre-Grade 1) 10
   ( ) 2. Elementary (Grades 1-6)
   ( ) 3. Junior High (Grades 7-9)
   ( ) 4. Senior High (Grades 10-12)

6. MAJOR TEACHING ASSIGNMENT (give ONE best approximation): 11-12
   ( ) 01. English
   ( ) 02. Science
   ( ) 03. Math
   ( ) 04. Art
   ( ) 05. Music
   ( ) 06. Drama
   ( ) 07. Library
   ( ) 08. Second language
   ( ) 09. Social Studies
   ( ) 10. Physical Education
   ( ) 11. Home Economics
   ( ) 12. Industrial Education
   ( ) 13. Religious Studies
   ( ) 14. Counselling
   ( ) 15. Business Education
   ( ) 16. Outdoor Education
   ( ) 17. Elementary Education
   ( ) 18. Early Childhood Education
   ( ) 19. Resource Room
   ( ) 20. Administration
   ( ) 21. Reading
   ( ) 22. Special Education

7. NUMBER OF TEACHERS IN YOUR SCHOOL:
   ( ) 1. Fewer than 5
   ( ) 2. 5 - 10
   ( ) 3. 11 - 20
   ( ) 4. 21 - 30
   ( ) 5. 31 - 40 13
   ( ) 6. 41 - 50
   ( ) 7. 51 - 60
   ( ) 8. 61 or more

8. YEARS OF TEACHING EXPERIENCE (as of June 30, 1980):
   ( ) 1. 1 year
   ( ) 2. 2 years
   ( ) 3. 3 - 5 years
   ( ) 4. 6 - 10 years
   ( ) 5. 11 - 15 years 14
   ( ) 6. 16 - 20 years
   ( ) 7. 21 - 25 years
   ( ) 8. 26 or more years

9. NUMBER OF YEARS YOU HAVE BEEN IN YOUR PRESENT SCHOOL (as of June 30, 1980):
   ( ) 1. 1 year
   ( ) 2. 2 years
   ( ) 3. 3 - 5 years
   ( ) 4. 6 - 10 years
   ( ) 5. 11 - 15 years 15
   ( ) 6. 16 - 20 years
   ( ) 7. 21 - 25 years
   ( ) 8. 26 or more years

PART B: SOURCES OF ORGANIZATIONAL STRESS

Organizational stress is defined as pressure or overburdening experienced by a person as a result of a situation in the work setting.
Listed below are a number of situations which may or may not be sources of stress to you in your work.

Each item requires TWO answers: (1) Please indicate by circling the appropriate number in column A how often the situation occurs in your work; (2) Please indicate by circling the appropriate number in column B how stressful each situation is to you in your work. Please answer all questions.

Situation	Column A How often does this situation occur?					Column B How stressful is the situation for you?					for office use CC
	Never	Rarely	Occasionally	Frequently	Almost Constantly	No Stress	Some Stress	Moderate Stress	Considerable Stress	Very Much Stress	
1. Over-sized classes	1	2	3	4	5	1	2	3	4	5	16 - 17
2. Split grades	1	2	3	4	5	1	2	3	4	5	18 - 19
3. Involuntary transfer to another school	1	2	3	4	5	1	2	3	4	5	20 - 21
4. Lack of feeling of job security	1	2	3	4	5	1	2	3	4	5	22 - 23
5. Theft or damage to personal property	1	2	3	4	5	1	2	3	4	5	24 - 25
6. Student vandalism	1	2	3	4	5	1	2	3	4	5	26 - 27
7. Verbal abuse by students	1	2	3	4	5	1	2	3	4	5	28 - 29
8. Lack of resources (e.g., books, supplies, equipment)	1	2	3	4	5	1	2	3	4	5	30 - 31
9. Lack of parental support	1	2	3	4	5	1	2	3	4	5	32 - 33
10. Lack of available consultative help	1	2	3	4	5	1	2	3	4	5	34 - 35
11. Lack of well-defined goals and objectives	1	2	3	4	5	1	2	3	4	5	36 - 37
12. Lack of opportunity for promotion	1	2	3	4	5	1	2	3	4	5	38 - 39
13. Lack of time during school day to get work done	1	2	3	4	5	1	2	3	4	5	40 - 41
14. Frequent interruptions in your work	1	2	3	4	5	1	2	3	4	5	42 - 43

Situation	Column A How often does this situation occur?					Column B How stressful is the situation for you?					for office use CC
	Never	Rarely	Occasionally	Frequently	Almost Constantly	No Stress	Some Stress	Moderate Stress	Considerable Stress	Very Much Stress	
15. Serving as a role model	1	2	3	4	5	1	2	3	4	5	44 - 45
16. Insufficient salary for work done	1	2	3	4	5	1	2	3	4	5	46 - 47
17. Lack of opportunity to interact with peers	1	2	3	4	5	1	2	3	4	5	48 - 49
18. Job assignment outside area of expertise	1	2	3	4	5	1	2	3	4	5	50 - 51
19. Open-area classrooms	1	2	3	4	5	1	2	3	4	5	52 - 53
20. Windowless classrooms	1	2	3	4	5	1	2	3	4	5	54 - 55
21. Lack of staff facilities (e.g., in workroom, staffroom)	1	2	3	4	5	1	2	3	4	5	56 - 57
22. Meeting deadlines	1	2	3	4	5	1	2	3	4	5	58 - 59
23. Student absenteeism	1	2	3	4	5	1	2	3	4	5	60 - 61
24. Disruptive students	1	2	3	4	5	1	2	3	4	5	62 - 63
25. Unmotivated students	1	2	3	4	5	1	2	3	4	5	64 - 65
26. Lack of positive feedback	1	2	3	4	5	1	2	3	4	5	66 - 67
27. Lack of clerical help	1	2	3	4	5	1	2	3	4	5	68 - 69
28. Staff evaluation procedures	1	2	3	4	5	1	2	3	4	5	70 - 71
29. Parent-teacher interviews	1	2	3	4	5	1	2	3	4	5	72 - 73
30. Lack of administrative support	1	2	3	4	5	1	2	3	4	5	74 - 75
31. Lack of "breaks" (e.g., coffee)	1	2	3	4	5	1	2	3	4	5	76 - 77
32. Travelling between schools	1	2	3	4	5	1	2	3	4	5	78 - 79

Situation	Column A How often does this situation occur?					Column B How stressful is the situation for you?					for office use CC
	Never	Rarely	Occasionally	Frequently	Almost Constantly	No Stress	Some Stress	Moderate Stress	Considerable Stress	Very Much Stress	1 ---- $\frac{2}{5}$
33. Lack of participation in making decisions that affect my work	1	2	3	4	5	1	2	3	4	5	6 - 7
34. Lack of cooperation of other staff members	1	2	3	4	5	1	2	3	4	5	8 - 9
35. Attending after-school inservice activities	1	2	3	4	5	1	2	3	4	5	10 - 11
36. Supervising students outside the classroom (e.g., recess, noon hour)	1	2	3	4	5	1	2	3	4	5	12 - 13
37. Managing extra-curricular activities	1	2	3	4	5	1	2	3	4	5	14 - 15
38. Diagnosing student needs	1	2	3	4	5	1	2	3	4	5	16 - 17
39. Preparing materials	1	2	3	4	5	1	2	3	4	5	18 - 19
40. Working with volunteers/aides	1	2	3	4	5	1	2	3	4	5	20 - 21
41. Student evaluation procedures	1	2	3	4	5	1	2	3	4	5	22 - 23
42. Program evaluation procedures	1	2	3	4	5	1	2	3	4	5	24 - 25
43. Helping students with personal problems	1	2	3	4	5	1	2	3	4	5	26 - 27
44. Completing forms, surveys and other paperwork	1	2	3	4	5	1	2	3	4	5	28 - 29
45. Experiencing rapid curriculum change	1	2	3	4	5	1	2	3	4	5	30 - 31
46. Conducting field trips	1	2	3	4	5	1	2	3	4	5	32 - 33
47. Receiving incompatible requests from two or more people	1	2	3	4	5	1	2	3	4	5	34 - 35
48. Implementing policies with which I disagree	1	2	3	4	5	1	2	3	4	5	36 - 37
49. Being required to make frequent role changes (e.g., mother, nurse, referee, judge, social worker, father, policeman)	1	2	3	4	5	1	2	3	4	5	38 - 39

Situation	Column A How often does this situation occur?					Column B How stressful is the situation for you?					for office use CC
	Never	Rarely	Occasionally	Frequently	Almost Constantly	No Stress	Some Stress	Moderate Stress	Considerable Stress	Very Much Stress	
50. Experiencing poor relationships with a colleague	1	2	3	4	5	1	2	3	4	5	40 - 41
51. Dealing with individual differences	1	2	3	4	5	1	2	3	4	5	42 - 43
52. Providing help to colleagues	1	2	3	4	5	1	2	3	4	5	44 - 45
53. Conflicting needs of students (e.g., parents, teachers, central office, school board)	1	2	3	4	5	1	2	3	4	5	46 - 47
54. Disagreeing with a supervisor	1	2	3	4	5	1	2	3	4	5	48 - 49
55. Trying to set priorities	1	2	3	4	5	1	2	3	4	5	50 - 51
56. Not knowing what is expected of me	1	2	3	4	5	1	2	3	4	5	52 - 53
57. Working with associates I feel are incompetent	1	2	3	4	5	1	2	3	4	5	54 - 55
58. Unrealistic expectations of others about what can be accomplished	1	2	3	4	5	1	2	3	4	5	56 - 57
59. Personality conflicts with students	1	2	3	4	5	1	2	3	4	5	58 - 59
60. Lack of public appreciation for work teachers do	1	2	3	4	5	1	2	3	4	5	60 - 61
61. Being accountable for the work of others	1	2	3	4	5	1	2	3	4	5	62 - 63
62. Lack of communication among staff	1	2	3	4	5	1	2	3	4	5	64 - 65
63. Lack of communication between the school and central office	1	2	3	4	5	1	2	3	4	5	66 - 67
64. Conducting fund-raising activities	1	2	3	4	5	1	2	3	4	5	68 - 69
65. Lack of sufficient planning time during school day	1	2	3	4	5	1	2	3	4	5	70 - 71
66. Lack of clearly-defined school policies	1	2	3	4	5	1	2	3	4	5	72 - 73
67. Lack of proper placement for students with special needs	1	2	3	4	5	1	2	3	4	5	74 - 75

OVER, PLEASE

for
office
use
CC

PART C: GENERAL

Please complete the following by checking (✓) the ONE response which most accurately describes you.

1. On the average, how stressful do you find your work: 76

( ) 1. No stress
( ) 2. Some stress
( ) 3. Moderate stress
( ) 4. Considerable stress
( ) 5. Very much stress

2. During the past two years, have you experienced any physical illness that you feel is related to stress in your work? 77

( ) 1. Yes ( ) 2. No

3. During the past two years, have you experienced a number of stressful situations in your personal life? 78

( ) 1. Yes ( ) 2. No

4. Do you plan to pursue a career in education until your normal retirement age? 79

( ) 1. Yes ( ) 2. No

If "NO", please explain your reasons:

5. Please elaborate if there are any major sources of stress in your work that you have been unable to identify by completing the questionnaire items.

Edmonton Separate School Local

ALBERTA TEACHERS' ASSOCIATION
11010 - 142 STREET
EDMONTON, ALBERTA
PHONE 451-1196

May 23, 1980

Teachers of the Edmonton Separate School Local

Dear Colleague

At the December Council meeting the following motion was passed:

> "That the Executive arrange for a survey to be constructed and administered to the teachers of the Edmonton Separate School Local, in order to identify any sources of stress experienced by teachers in relation to their professional duties and responsibilities."

The attached questionnaire and its resulting analysis will fulfill the intent of this motion.

I cannot emphasize enough the extreme importance of your cooperation in completing and returning this form.

The results of the survey could be significant in our future considerations for the program.

Please note that the form is to be returned to Mrs Williams via IMC.
Please DO NOT mail.

Thank you for your cooperation.

Sincerely yours

EDMONTON SEPARATE SCHOOL LOCAL #54

Gerry McHugh

Gerry McHugh
President